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DEPARTMENT OF COMMERCE AND LABOR
BUREAU OF MANUFACTURES

MONTHLY CONSULAR AND TRADE REPORTS

JANUARY, 1908

No. 328

WASHINGTON
GOVERNMENT PRINTING OFFICE
1908

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MONTHLY CONSULAR *and* TRADE REPORTS

Washington, D. C. JANUARY, 1908 **No. 328**

FOREIGN COMMERCE.

CUBA.

INDUSTRIAL AND TRADE CONDITIONS.

OPPORTUNITIES FOR SALE OF AMERICAN GOODS—IMPORTANCE AND POSSIBILITIES OF THE SUGAR INDUSTRY.

Special Agent Arthur B. Butman submits the following report on the industrial and trade conditions in Cuba. The resources of the island are pointed out and the opportunities for the sale of American products outlined. Attention is called to the requirements of the market, and instances are given wherein disregard of such matters has led to serious inconvenience and loss to Cuban importers and a consequent detrimental effect upon American trade. The report follows:

The island of Cuba embraces about one-half of the total area of the West Indies, with natural commercial advantages surpassed by few countries. The population, numbering approximately 1,700,000, about equally divided between the native whites of Spanish origin and negroes and mixed races, depends almost wholly upon the sugar and tobacco crops. Although nearly every portion of the island is suited to cane growing, it is estimated that not more than 2,000,000 acres (about one-fourteenth of the entire total acreage) is under cane cultivation. The opportunities for a profitable development of this industry are great. The climate and soil are such as to furnish a ready cane growth with comparatively little attention to cultivation, and replanting is needed only once in ten or fifteen years. Cuba's prestige in the world's sugar markets is second to none, and we have only to consider the millions of acres adapted to such cultivation which are as yet in a virgin state to realize the incalculable wealth of the island.

Advance figures for 1907 show the sugar exportation for the present year to have been most satisfactory thus far. For the nine months ended September 30, 1907, there were exported 9,214,166 sacks of sugar, and there were left on hand 441,315 sacks. For the corresponding nine months of 1906, 7,774,796 sacks of sugar were exported, and there were on hand 255,001 sacks on September 30, 1906. This shows an increase of 1,439,370 sacks in the number exported and 186,314 sacks more on hand September 30, 1907, than on the same

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date in 1906. It is predicted that the sugar crop for 1907-8 will show a shortage owing to this year's severe drought.

TOBACCO CULTIVATION AND TRADE.

Tobacco ranks second in importance in the island's products. Cuban tobacco is of superior grade, and is reputed as being the best in the world. Pinar del Rio, the extreme western province, is the home of the highest grade leaf grown, and, in fact, nearly three-fourths of the total tobacco acreage of the island is contained in this province. The tobacco industry—raising the leaf and manufacturing it into cigars and cigarettes—gives employment to about 100,000 persons. The cigar maker's wage varies, an expert in making selected sizes sometimes earning $50 a week; a person employed in making the highest-grade cigars receives for the work 15 to 20 cents each; others from $10 to $15 per week.

In 1906, tobacco and manufactures of tobacco formed 26 per cent of the total exports of Cuba and were valued at $36,702,586, an increase of $7,286,624 over the previous year. The detailed values were as follows:

Description.	Quantity.	Value.
Leaf tobacco ....bales..	227,426	$19,419,820
Cigars ....number..	256,738,029	16,688,572
Cigarettes ....packages..	15,648,275	391,082
Cut tobacco ....pounds..	378,154	203,112
Total	....	36,702,586

The home consumption during the year amounted to $12,334,154.

The importations of tobacco and manufactures of tobacco into the United States from Cuba during the fiscal years ended June 30, 1906 and 1907, were as follows, as given in the publications of the Bureau of Statistics of the Department of Commerce and Labor:

Description.	Quantity.		Value.	
	1906.	1907.	1906.	1907.
	Pounds.	*Pounds.*		
Leaf tobacco........	24,205,062	20,338,264	$13,510,367	$13,527,868
Cigars, cigarettes, etc........	783,804	740,565	3,964,016	3,889,520
All other........	....	....	4,596	....
Total........	24,988,866	21,078,829	17,478,979	17,417,388

POSSIBILITIES OF CITRUS FRUITS—MISCELLANEOUS PRODUCTS.

The possibilities of cultivation of citrus fruits in Cuba are great. Oranges, grape fruit, lemons, and limes yield abundantly. The estimated cost of establishing a 10-acre orange grove on land valued at $50 an acre is as follows: Land, $500; clearing, $250; planting, $150; 900 trees, $225; care for five years, $1,500; total, $2,625. Some fruit may be expected the third year. Vegetables may be profitably grown between the trees while waiting for their maturity. Varieties of oranges which have proven most satisfactory for cultivation in Cuba are the Pineapple and Valencia, the former an early and the latter a later variety. In grape fruit Marsh's seedless and Duncan are the two varieties favored for planting. The commercial possibilities of lemon and lime growing as an industry are as yet an unknown quantity in Cuba, though the trees grow wild and bear abundantly.

The pineapple is indigenous to the island. The first shipment of "pines" from Cuba was made to New York in 1870, since which time the cultivation of the fruit has constantly increased, and the industry is now an important and profitable one. The demands of the market are large. Sucker plants are worth $20 to $25 per 1,000, and an acre of pineapples will usually yield sufficient suckers for planting from 3 to 5 additional acres. A pineapple canning factory, recently established across the bay from Gibara, on the northern coast, reports a successful first year's business. The plant has a capacity of 10,000 pineapples a day. All equipment, machinery for canning, and the cans were imported from the United States.

The climatic conditions of Cuba meet the requirements for banana growing, the average temperature being about 74°. Nevertheless, the industry has not proved as profitable, so far as American interests are concerned, as might be desired. It is claimed, by way of explanation, that the flavor of the Cuban banana is inferior to that of the Jamaican product, which naturally affects the market demands.

The main line of railroad between Santiago and Habana, a distance of 540 miles, along the center of the eastern and wider half of the island, opens up the finest agricultural regions, with soils adaptable for the raising of a great variety of products. Parana and Guinea grasses, excellent for cattle feeding, cover the open districts and furnish good grazing lands. Forests of valuable woods—mahogany, cedar, ebony, etc.—also abound.

RAILWAYS AND HIGHWAYS—CUBAN IMPORTS, AND BRITISH INTERESTS.

Inland transportation facilities in Cuba are being constantly improved. The annual statement of the Cuba Railroad Company shows the gross earnings for the fiscal year ended June 6, 1907, to have been $1,953,309, and the net earnings $658,354. The road has a surplus of $698,031, and the net income for the year was $332,424. During the year $153,738 was expended for improvements on the roadbed. The gross earnings of the road increased 270 per cent from June 30, 1904, to June 30, 1907.

The provisional government is causing good work to be done in the building of roads, the erection of new municipal edifices, and the construction of waterworks and bridges. More than $900,000 was expended during one month recently by the engineering department in carrying out these improvements. One of Cuba's needs is good roads, and every section of the island is benefiting from the work now being carried on. In many places much needed improved communication between agricultural centers has resulted.

Without doubt additional manufacturing industries will be introduced as the country develops. However, in the broad sense of the term, Cuba will never be a manufacturing country, but will depend upon foreign sources for the supply of manufactured products. By far the larger percentage of these requirements is now supplied by the United States. The total value of the island's imports for the calendar year 1906 was $98,019,621, of which $47,602,345 was furnished by the United States. The United Kingdom ranks second with $14,081,023, and Spain third with $9,018,121.

British interests on the island, as measured by investments, may be approximately estimated at $100,000,000, including the oldest and most profitable railroad, owned and operated by British capital, shipping industries, and real estate. Of the total tonnage entering Cuban ports about 25 per cent is British. British capital is at present constructing a new sugar central at Ciego de Avilá to have a capacity of 300,000 sacks. The equipment is of English manufacture. Cuba's exports to the United Kingdom for the calendar year 1906 amounted to $5,899,734, showing the balance of trade to be largely in favor of Great Britain. British purchases consist principally of cigars, tobacco, rum, and hard woods. Her principal items of sale are cotton and linen textiles, iron, and steel.

ENGLAND'S MONOPOLY OF THE COTTON TEXTILE TRADE.

The United Kingdom supplies approximately 42 per cent of the cotton textiles imported, the annual value of which is about $10,000,000. The sales of American manufactures are constantly gaining, but under the reciprocal tariff arrangement now existing between the United States and Cuba the lion's share should fall to us instead of to Great Britain. Spain maintains 20 per cent of the textile trade, holding second place, while the United States ranks third, with 18 per cent. Spain's share of the trade is accounted for by various natural reasons. As previously mentioned, one-half of the native population are of Spanish parentage, while a good proportion of native Spaniards are numbered among the foreign population. The customs and tastes of these people have been for four centuries practically Spanish. The larger number of business houses throughout the island are of Spanish establishment, long accustomed to dealing with Spanish firms and according to Old World methods. The English textile manufacturers take great trouble to conform to the methods obtaining among Spanish firms—credit system, required delivery, conformity to local taste, etc. This explains largely England's present predominance in the textile trade of Cuba.

Cuban dealers accredit English manufacturers with a knowledge of tropical needs, owing to long experience in producing fabrics for their own colonies. Granted the truth of this, there seems no sufficient reason for the failure of American looms to supply the proper weights, necessary widths, and desired colors for tropical trade if sufficient attention to such weights, widths, and colors were given by the American producers. Importations of cotton textiles from the United States are almost wholly confined to the cheaper grades, principally colored prints. A certain amount of the very finest goods are furnished by France. The present high prices maintaining in the cotton textile market in the United States have a detrimental effect upon the sales of finer grades in Cuba. Pinks and blues in mercerized and finest weaves are in especially good demand for women's dresses.

LACES, SILK RIBBONS, AND CLOTHING.

The demand for cheap cotton laces and Hamburg embroideries is enormous. These are not only sold in shops, but so general and constant is the demand that the Cuban lace vender, bearing on his head through the streets a huge basket containing his stock in trade, is a familiar figure in town and country. The market for silk ribbons is another of large demands. The native Cuban woman's or child's toilet is seldom complete without the accompanying sash or silk bows. France furnishes a good supply of these goods, as well as perfumes and toilet accessories.

Men's tailors do a good business in all Cuban towns. Aside from linen suitings, which are mostly secured from Spain, large quantities of cashmeres and alpacas imported from the United Kingdom are employed, also cotton weaves known as tropical suitings. American ready-made clothing, men's underwear, pajamas, shirts, etc., also women's shirt waists and skirts, find ready sale in Cuba. Great care should be taken in the invoices of all such goods, as Cuban invoice requirements are of the strictest order. Specifications as to the character of the goods, weights, classification, number of threads, etc., should be minutely carried out and should be absolutely correct.

STRUCTURAL MATERIALS—FARMING AND SANITARY APPLIANCES.

Importations of structural materials and machinery are constantly increasing, and the United Kingdom puts forth every effort for securing this trade. Conservative cost estimates and a credit system favoring Cuban conditions are proffered.

Agricultural implements of American manufacture have a firm foothold and lead the imports of such articles. Practically the same kind of implements used in the United States are employed, no radical changes in construction being necessary. American manufacturers and exporters of agricultural implements would do well to keep in constant touch with Cuba's markets, for as the country develops the demand is bound to be considerable.

Owing to the wise enforcement of sanitary laws, the demand for new and modern sanitary appliances of all kinds is large. There are at present under construction, rebuilding, and renovation in Habana and suburbs approximately 5,000 buildings, for which a large quantity of such goods is needed. The same conditions obtain in a lesser degree in all cities and towns throughout the island. Sanitary articles of American manufacture have the largest sale despite sharp competition on the part of English, French, and German houses. Iron water pipe, valves, and fittings are also in good demand. A Habana dealer informed me of a contract recently closed with the Cuban Government for $244,000 worth of cast-iron water pipe of American manufacture. The contract was awarded in the face of a European bid of $30,000 less, the American receiving preference because the pipe was for immediate use. This shows that the American manufacturer is repaid when he puts forth efforts to ship promptly.

FOOD SUPPLIES—HOW TO INCREASE AMERICAN TRADE.

The meat supply of the island is principally of Chicago dressed beef, augmented by home-killed beef. A prominent Chicago packing house has an agency in Habana, in connection with which an establishment is maintained for the preparation of hams and bacon, which are largely imported from the United States in a pickled state and cured after arrival. The demands for hams, bacon, lard, and lard compound are considerable, and the trade may be safely stated to be held by Americans. Lard and compounds are in general use for cooking purposes, very little butter being employed. As regards compounds, the tastes of the islanders vary. In the Cienfuegos district a compound of a consistency suitable to be carried in a paper wrapping is desired, while in the Santiago district the purchaser requires the article in an almost liquid state. Large quantities of jerked beef are annually imported from South America and are consumed principally by the poorer classes. This beef is said to be of inferior quality, being from cattle slaughtered for their hides and tallow. Canned meats, though not showing large sales, are gaining.

American groceries have a fair sale among the native population. In competition are found Spanish, English, and French goods. The trade in pickled olives is considerable and is held by Spain, the price of the California olive preventing it from competing. Canned tomatoes are also largely imported from Spain, by reason of low price, though not so neatly and attractively put up as the American product. In fancy biscuits and crackers English goods are largely used, being better known than American. The supply of jams and preserved fruits, furnished principally by England, is supplemented by California goods.

Cuban dealers claim that American manufacturers might secure a good share of this trade if a distribution of samples of various American alimentary products were made throughout the island. European firms generally follow this method with satisfactory business results.

SHOE AND LEATHER TRADE.

The conditions of the shoe and leather trade between the United States and Cuba are most encouraging. A summing up of such trade for the past five fiscal years shows interesting results, the exports to Cuba being as follows, according to publications of the Bureau of Statistics:

Description.	1903.	1904.	1905.	1906.	1907.
Sole leather	$1,772	$649	$3,066	$145	$7,392
Glazed kid	876	1,518	5,406	6,284	23,585
Patent or enameled	194	1,090	6,030	12,644	15,189
Splits, buff, grain, and other upper	81,729	143,731	205,191	211,515	126,334
All other leather	5,401	4,255	19,939	37,626	156,221
Harness and saddles	30,008	46,453	57,497	90,089	167,229
Boots and shoes	536,303	979,303	1,322,030	1,769,796	2,145,415
All other manufactures of leather	41,994	77,820	69,031	74,163	66,489
Total	698,277	1,254,819	1,688,190	2,202,262	2,707,854

Shoe manufacturing, as the term is understood in the United States, is unknown in Cuba. Some shoes are made at Matanzas and Habana from previously prepared uppers made in the United States, but these establishments would hardly be classed as shoe factories, all work being done by hand. There are numerous cobbling shops in various localities where a few crude pairs are made.

STYLES AND PRICES OF FOOTWEAR.

I think the statement of Cuban dealers is a conservative one, which claims that there is no product of American manufacture more popular to-day in Cuba than shoes, and that the great advance in sales has been largely brought about by conformity to local tastes. Men's goods differ little from the accepted American last of modified order (not a freak last). Women's goods are preferred on the Spanish lines, which are much like the French "forme," a long, narrow last, straight, with high instep, and Cuban or Louis XV heel. Women's footwear of American make, on lasts as described, are for sale generally throughout Cuba. Original American shapes are also to be found in the shops, but sales of these are not so readily made except among the American colonists. The Spanish shoe with which our product must compete is of good appearance, being made from either American, French, or German upper leathers, on the narrow last, and generally by hand. All Spanish shoes show the high instep and are of light weights, with comparatively thin soles. Light-weight shoes are preferred by the Cuban buyer, and are also much better suited to the climatic conditions.

Shoes of Spanish manufacture are sold at $2.50 to $6 a pair, both men's and women's. American footwear ranges from $3 to $7 a pair, and a still higher price is obtained for the finest grades. Some cheap goods, varying in prices from $1.50 up, are also on the market. All usual upper leathers find favor in Cuba, with possibly a preference for vici and glacé kids and patent colt, in both black and russets. Oxfords, bals, and buttons are worn, also Congress. It seems that the latter three styles are more widely preferred than would be expected in a hot climate, while canvas goods apparently lack much of the popularity accorded them in Porto Rico and Jamaica.

The customs duties on leather and its manufactures entering Cuba from the United States are given in Tariff Series No. 1, published by the Bureau of Manufactures.

In reference to a furtherance of our boot and shoe trade with Cuba the following suggestion, as deduced from the general statements of importers, is given: Make no promises unless fulfillment of them is assured. It is a fact that the injury done to many American business interests in foreign markets by inconsiderate if well-meant promises is far greater than those at home realize.

INSTRUCTIONS REGARDING CONSULAR INVOICES.

It is a matter of deep regret that the lack of knowledge and carelessness of American shippers as to the laws covering duties, customs, and importations of goods into Cuba are so great. It is said that such defects are not found in the invoices of any other country shipping goods here. As a means of remedying this defect the official instructions regarding the proper filling out of consular invoices are given, as follows:

Invoices must be made on firm and durable paper in a legible manner and in indelible ink. If typewritten, the original copy must be presented; duplicates and triplicates may be carbon copies. They must contain names of shipper and consignee, name of vessel, marks and numbers, description of merchandise, specifying the materials of which it is composed, gross and net weights, detailed price and total value, including a statement of the expenses incurred by the merchandise up to the time it is packed and ready for shipment. If there are no expenses, state so.

In describing the merchandise particular care must be taken in making a thorough statement of the materials of which it is composed. Example: If knives, state knives of steel with wooden handles, or bone handles, as the case may be; if shoes, state made of leather with tops of cloth, canvas, etc.; if machinery, state if of steel or steel and brass or any other metals; if furniture, made of oak, mahogany, or pine wood; if cloth, state the kind and number of threads of which it is composed.

At the end of the invoice the manufacturer, producer, or seller will write in Spanish and sign one of the following declarations:

If the article shipped is a product of the soil or industry of the United States: "Declaro que soy el (fabricante, productor, ó vendedor) de las mercancías relacionadas en la presente factura y que son ciertos los precios y demás particulares que en ella se consignan, y que las mercancías contenidas en dicha factura son productos del suelo ó de la industria de los Estados Unidos de América." [I do declare that I am the (manufacturer, producer, or seller) of the merchandise mentioned in the present invoice and that the prices and other particulars stated in the same are true, and that the merchandise mentioned in said invoice is the product of the soil or of the manufacture of the United States of America.]

If a product of the soil or industry of any country other than the United States: "Declaro que soy el (fabricante, productor, ó vendedor) de las mercancías relacionadas en la presente factura y que son ciertos los precios y demás particulares que ell seconsignan." [I do declare that I am the (manufacturer, producer, or seller) of the merchandise mentioned in the present invoice and that the prices and other particulars stated in the same are true.]

Each invoice must only cover the products of the soil or industry of the United States or foreign products. No invoice will be accepted by the Cuban custom-houses containing domestic and foreign merchandise.

When the declaration is signed by an individual having a power of attorney it must be signed as per example: "John Doe & Co., per, or by, Richard Doe, attorney," if by a member of the firm: "John Doe, of John Doe & Co."

If the manufacturer, producer, or seller is not a resident of New York,[a] a person must be appointed in such city to present the invoice, such appointment to be in writing and sworn to before a notary public. In this case, as well as when the shipment is made through an agent, in addition to any of the foregoing declarations signed by the said manufacturer, producer, or seller (as the case may be) a second declaration is required, written in Spanish and signed by the agent, as follows: "Declaro que soy el agente autorizado por la persona que ha suscrito la anterior declaración, para presentar esta factura en la oficina consular de Cuba en esta plaza, á fin de que sea certificada." [I do declare that I am the agent authorized by the person who has signed the previous statement, in order to present this invoice in the consular office of Cuba in this city, with the view that same be certified.]

Invoices as well as the declarations above referred to must be written on one side of the paper only. Should there not be sufficient space an extra sheet must be pasted to the last one.

Invoices not made according to these requirements will not be certified.

Since July 1, 1907, four consular invoices are required in shipping to Cuba. The consul retains three copies and the original is returned to shipper after certification. Invoices may be made in either English or Spanish. An importer often has difficulty in securing a triplicate, or even, in some instances, duplicate invoices from the United States, while European houses willingly furnish any number required.

IMPORTERS MUST PAY FOR MISTAKES OF AMERICAN SHIPPERS.

The custom-house authorities require that the consular bill give all details regarding materials, weights, etc. If the shipper has not complete knowledge of the article in question he is liable to mistakes which may mean a heavy fine to the importer. For instance, not long ago, one firm received a consignment of American and Cuban flags. It was difficult to detect by a casual glance that both wool and cotton entered into the manufacture of the flags, and the shipper declared them as being made of cotton only. This declaration was proved incorrect and the firm was obliged to pay a fine of $38. A consignment of ladies' linen dusters, carelessly set down as cotton, resulted in a fine of $36. These are only two of many like cases.

It is claimed that when an order is placed in Europe it is confirmed at once upon reaching its destination, shipping date is given, and one may count on receiving the goods within two or three weeks, according to route of shipment. Invoices from Europe were shown the writer which were legibly written with ink and contained every detail required.

---

[a] Or any other city in the United States at which a Cuban consul is stationed.

Like difficulties regarding the invoicing of machinery are met, apropos of which the following letter, sent the writer by an American firm doing business in Cuba, is submitted, to which the careful consideration of American manufacturers sending their products to Cuba is asked:

> This firm is American from head to foot, and we are proud of it. Nevertheless we have many complaints to make against our countrymen, and if they still continue with such ignorance and negligence as in the following example we shall either be forced out of commission or compelled to place all of our business in countries other than the United States. All laws covering duties, customs, and importation of goods to this country were made by Americans, and we have to abide by them. The following is what we have to put up with:
>
> Some time ago we sent to ——— ———, Louisville, Ky., an order for their manufacture. Goods were received here with packing list, consular invoice, and bill of lading. These goods came sight draft against bill of lading. When papers were presented to custom-house for clearance the packing list did not correspond with the consular bill, and neither of the aforesaid with the bill of lading, consequently the question arose that we were trying to get in more goods than the consular bill called for. Of course our shipment was sidetracked until the authorities found time to reweigh, recheck, and classify, heavy demurrage each day accruing. Besides the expense of rehandling this stuff, the whole amount of the extra cost was $90, about 25 per cent of the value of the goods, which we had to pay. Besides this $90, we lost about $400 by noncompletion of contract. These difficulties—losses of time and money—are due to the carelessness in making out the proper shipping papers. We sent to the Louisville house government receipts with explanations from government authorities why we had these charges to pay, sending them a bill for this amount, feeling that they ought to pay for their mistakes. Their reply stated that they can not entertain such an idea of paying for trifling clerical mistakes.
>
> This is not the only occurrence of the kind, for we have many of them, the above being but a sample, and on top of it all our American manufacturers are asking why we do not give them more business. Seventy-five per cent of our business goes to England, where they certainly understand exporting. From there we can get goods just as quick, better packed, and even better finished than from the United States.
>
> Regarding the freight, 18 English tons come from Liverpool to Habana for less money than 2 tons from New York to Habana. English goods pay 5 per cent more duty, and yet with the difference in freight we can pay 10 to 15 per cent more duty and beat out American goods. We are now contemplating the shipment of United States goods via Liverpool to Habana to save freight. It can be done.
>
> For several years we have imported machinery to Cuba and the situation to-day regarding importation from North America instead of getting better is considerably worse.

[A list of Habana importing houses, agents, and dealers in machinery, lumber, hardware, boots and shoes, agricultural implements, dry goods and textiles, flour and groceries, coal and sanitary appliances, as furnished by Special Agent Butman, is on file in the Bureau of Manufactures, where it may be consulted by interested persons.]

TWO BUSY PORTS.

GREAT INCREASE IN TRADE WITH THE UNITED STATES.

In reviewing the trade of Banes and Nipe, Cuba, for the fiscal year 1907, Consular Agent George Bayliss, of Antilla, says in part:

The total exports to the United States amounted to $4,885,212 (which includes returned American goods worth $10,465), an increase of $2,913,257, or 150 per cent, over the fiscal year 1906. Of the total amount, Banes exported articles valued at $2,047,805 and Nipe

$2,837.406 worth. The increase in commerce was mainly due to the opening of Nipe as a port of entry August 1, 1906.

There has been a slight increase over the previous fiscal year in the exportation of bananas, notwithstanding that the United Fruit Company, at Banes, which was the largest exporter of bananas from Cuba, has ceased the culture of this particular fruit and has planted instead sugar cane, because of the latter being a more profitable crop. The banana industry should extend itself in Cuba, as the soil and climate are particularly adapted to the growing of this fruit. The cost of cultivating a caballeria of land (33⅓ acres), as given by the Cuban agricultural department, for five years is $4,894. The land should produce 37,000 bunches of bananas, worth on an average 31 cents per bunch, delivered at the steamer, which would make the gross sales amount to $11,470.

There has been a large increase in the exportation of cedar logs and boards. The exports of pineapples and citrus fruits have also largely increased. The only exports to countries other than the United States were a few cargoes of cedar to Germany and 2,129,568 gallons of crude molasses, valued at $49,988, to the Netherlands.

The articles of export to the United States from Banes and Nipe during the fiscal year 1907 were as follows:

Articles.	Value.	Articles.	Value.
Bananas	$493,881	Oranges	$2,885
Boards, cedar	56,502	Pineapples	17,003
Hard woods	9,298	Sugar	3,732,816
Hides	6,479	Other articles	273,297
Mahogany	21,871		
Molasses	272,285	Total	4,885,212

The total imports into Banes and Nipe during the fiscal year 1907 amounted to $1,932,901, of which the United States furnished articles worth $1,821,439; the United Kingdom, $105,169; Germany, $6,025; and other countries, $268.

JAMAICA.

CUSTOMS RETURNS OF THE ISLAND.

VALUE OF GOODS IMPORTED FROM THE UNITED STATES.

The following statistics, furnished by Consul F. Van Dyne, of Kingston, appear in the annual report of the collector-general of Jamaica, covering the fiscal year April 1, 1906, to March 31, 1907, which has just been published:

The total amount of customs collections for the year was $2,000,998, an increase of $105,452 over the previous twelve months. Goods valued at $1,878,581 were admitted free of duty. Of the $10,128,610 imports, $6,351,923 were of manufactured articles, $3,753,488 of food, drink, and narcotics, and live animals, and only $23,199 raw material. Of manufactured articles, the United States furnished $1,986,977, or 31.3 per cent, and the United Kingdom $4,072,827, or 64.1 per cent. The United States sold of food, drink, narcotics, and live animals $1,983,337, or 52.8 per cent; the United Kingdom $765,656, or 20.4 per cent. Of raw material the share of the United States was 60.9 per cent; that of the United Kingdom 31.2 per cent.

MEXICO.

MARKET FOR SANITARY APPLIANCES.

ESTABLISHMENT OF SEWERAGE SYSTEM AND WATERWORKS.

Consul C. M. Freeman, reporting from Durango, gives the following information concerning the opportunity for selling sanitary supplies in that city of Mexico, owing to the establishment of a system of sewerage and waterworks:

The present status is that, the money to carry on this undertaking having been secured through loans for which the credit of the State is pledged, the contracts have been made and the work, or at least that part of it connected with the sewerage system, is well under way, and is being pushed ahead as rapidly as is possible with the several hundred men employed. This public work naturally opens a market for sanitary appliances, plumbing supplies, and goods of a like nature, and the inquiries received relate almost wholly to the sale of these articles.

Under the city ordinances every house on the line must be connected with the sewer. This regulation not only creates a demand, but forces the purchase of this class of goods, and the market, for a time at least, must be a brisk one. There should also be an opening for plumbers as well, for a careful inquiry fails to locate a man of that trade in the city, and all work done in the past in the plumbing line has been done by imported labor.

Should a company or an individual wish to establish a business here connected with public works, or over which the state has control, a concession must be secured, and it is more than probable that some citizen of the country has secured the concession for making connections with both the water and the sewers. Nevertheless it is well understood that a concession does not give exclusive rights shutting out all competitors, but it does mean that unless parties who desire to engage in this work also secure concessions from the Government they will not be allowed to do any of the work. These works now going on open a practically virgin and extensive field for the necessary supplies which householders must have in making their connections and fitting their establishments with modern sanitary appliances.

This parental oversight of the Government in forcing all to connect with the sewers does not, I understand, go to the extent of compelling the taking of water, but as the supply now carried through the city in open canals is to be utilized in the new system it amounts to the same thing in the end.

BEST METHOD FOR SALE OF SUPPLIES.

Advantage can be taken of this opportunity by sending catalogues and price lists to houses here dealing in goods that assimilate with water, sewer, and plumbing supplies. These houses are the dealers in hardware, stoves, and tin goods, and there are several in Durango doing an extensive business [a list of which is on file at the Bureau of Manufactures]. This way of reaching the trade (by catalogues) is the poorest and least productive of results. Buyers here resort to catalogues only after connections with the catalogue house have been established by some other method or at some previous time, or in exceptional cases, and as a last resort by buyers who are unable to find what they want in their regular channels of trade.

I do not wish to be understood as decrying the usefulness of catalogues, for they are without doubt great promoters of trade, but in the present case, where many of the articles are new to the business houses which will handle them, catalogues will not win out. Good they will certainly accomplish, but a personal demonstration of the merits of new goods is what is wanted, and that line of work is the function of the commercial traveler. A commercial traveler coming here needs to see the parties who will handle this local business, and in this connection it is absolutely useless to send men not thoroughly conversant with the Spanish language. Experience in business as conducted in Mexico is also a most valuable asset. Many American commercial travelers come here equipped only with self-assurance, ignorant of the language and the way business is conducted, supplied with a few samples and a catalogue. That they succeed in securing orders for the houses by whom they are employed only emphasizes the fact that, so far as a market for American goods is concerned, in many lines the surface only has been scratched. The geographical advantage which we possess, combined with methods which appeal to the business men of Mexico, should materially increase our lead as exporters to this country.

AMERICAN BRANCH HOUSE NEEDED.

The most efficient way of securing a share of this trade would be to open up a branch of the American house, having besides the manager in charge one or two good plumbers (helpers can be found here), procuring from the Government a concession to do this work or making some working agreement with the party holding a concession. This last method should not be entered into without a personal and thorough investigation of the situation by the interested parties.

Durango is per capita one of the wealthiest cities in the Republic of Mexico and the most conservative. To the establishment of the water and sewerage system there has been bitter opposition. The installation, however, being assured, their conservatism, in connection with ample means, will be conducive to the sale of the very best of sanitary appliances. The ambitions of the middle class—the renters—are fast increasing; they are far from being contented with a bare sufficiency of food, clothing, and shelter; they are acquiring a taste for luxuries—necessities in the United States—and as their wants increase their standard of living will improve, and they will undoubtedly prove a considerable factor in aiding indirectly the sale of sanitary supplies. There is certainly an opening in Durango and, if it is handled properly, there will be a steady market for many years to come.

TRADE IN WALL PAPERS.

DECLINING SALES OF AMERICAN GOODS, WHILE EUROPEAN FIRMS GAIN.

Consul-General A. L. M. Gottschalk, of Mexico City, reports as follows on the loss of much Mexican trade by the wall-paper manufacturers of the United States, and how it may be remedied:

There has been a perceptible decrease in the trade done in southern and central Mexico generally (and in this city in particular) in

American wall papers, which appear to be losing ground before similar products from France, as well as, in a smaller measure, from England and Germany. Upon a close inquiry I discovered the following facts, which should be of interest to the wall-paper trade at home:

The sample books offered by American travelers in this line of goods are usually much smaller in size than those sent out by European houses. In this particular class of goods, where the sample shown should, in a measure, give to the customer's eye the general effect which the paper will ultimately have when hung, a small sample is very unsatisfactory. Some seven or eight years ago American wall papers were enjoying their best popularity here. Since then increased prices and a real or fancied decrease in the quality of the paper itself have laid them open to severe competition, chiefly from French sources.

COMPLAINTS CONCERNING AMERICAN PAPERS.

Much complaint is heard here (as in tropical latitudes generally) of the lack of permanence in the colors used in our American wall papers. A paper which in New York or Chicago would not fade in two years' time would hardly keep its hue for as many months under tropical light and sunshine. Some of the European houses are manufacturing papers in such delicate shades as old rose, nile green, electric blue, shrimp pink, etc., which cost no more than the American product and yet keep their color indefinitely, whereas ours seem to fade almost at once.

Complaint is also made of the lack of originality and variety in our American designs, as offered on the market here, in contrast to the output of certain European firms, which not only keep varying their designs but popularizing new shades of color and new styles of embossing their wall papers to imitate burlap, moiré or grosgrain silk, tapestry, velvets, rough cement walls, etc. I must admit that in the United States I have seen handsomer specimens of American wall papers than are usually sent here; but on this market they are invariably much more expensive than the European ones, and, generally speaking, much less artistic in design.

PANAMA.

VALUE OF BONDED WAREHOUSES.

ADVANTAGES TO BE DERIVED IN TRADE WITH SOUTH AMERICA.

F. L. Rockwood, former vice-consul-general at Bogota, writes to the Bureau of Manufactures from Panama, calling attention to the importance of bonded warehouses at Panama in which to store goods for the trade on the Pacific coast of South America. He says that such warehouses would enable American manufacturers to keep on hand at that point goods to show prospective customers and to fill orders with on cable notice from the home office, thus saving more than one-half of the time required to ship articles from the interior manufacturing points of the United States to the Pacific South American trade points. It would also attract the through travelers to Europe, who would see what was offered them before going farther; and it would bring the American manufacturer nearer his customers and with more satisfaction to them.

ARGENTINA.

PROSPEROUS CONDITIONS.

GENERAL PROGRESS AND DEVELOPMENT OF ITS EXTENSIVE RESOURCES.

A comprehensive review of the commerce of Argentina for the first half of 1907 has been prepared by the Buenos Aires correspondent of Dun's Review, from which the following is taken:

Foreign trade returns are satisfactory, latest statistics from January 1 to June 30, 1907, with comparative totals for the same period of 1906, being given below:

	Imports, gold.	Exports, gold.
First half, 1907	$130,561,685	$185,434,453
First half, 1906	117,508,381	164,766,110
Increase	13,053,304	20,668,343

The countries doing the bulk of the trade and the gain or loss in gold value, as compared with the corresponding period last year, are:

	Imports.	Exports.		Imports.	Exports.
Germany	+$3,275,325	+ $198,480	France	− $407,559	+$3,506,876
Belgium	+ 1,968,998	+4,182,071	Italy	− 231,324	− 796,312
Brazil	+ 478,403	+1,125,771	United Kingdom	+8,587,677	− 615,457
Spain	− 210.883	− 633,228	Orders		+20,668,343
United States	− 966,129	−1,283,434			

Of the principal imports the values in gold compared with those for corresponding period of 1906 are:

	1907.	1906.		1907.	1906.
Wines, spirits, and liquors	$4,112,603	$4,136,975	Other metals and metal goods	$3,130,411	$3,572,843
Silk goods	1,701,995	1,699,451	Agricultural implements and utensils	7,169,828	8,560,965
Woolen goods	5,732,305	6,417,833	Traction	25,909,453	13,534,172
Cotton goods	18,099,019	15,131.182	Electricity	1,621,263	1,089,641
Other textiles	23,451,354	26,406.425			
Wood and wooden goods	2,473,562	2,428,505			
Paper and paper goods	2,345,822	2,180,198			
Iron and iron and steel ware	14,241,868	14,710,273			

TRANSPORTATION DEVELOPMENT.

One of the most noteworthy features of the first half of the 1907 import returns is the large increase in the traction section. Practically the whole of the six months' total increase, compared with the corresponding period of 1906, is due to the augmentation in this class of imports. Of course the large railway and tramway development going on is mainly responsible for this. Thus, there were 262 locomotives imported, as against 55 during the corresponding period last year; tram coaches 258 against 65, and railway wagons and coaches 2,805 against 811. Buenos Aires is notably a city where transportation facilities are in great request by the whole population. Nowhere is this more marked than among the wealthy class. A visit to the Palermo Corso in the height of the season will quickly convince a stranger that for luxuriousness and elegance the carriages and equipages there to be seen equal those in any fashionable city of the world. Most of them are imported from Paris. The national coach building industry is not of any great moment in so far as victorias and landaus are concerned, and these two comprise the bulk of the private carriages. What this trade must mean, and the future possibilities it might have for American and European carriage builders, will be gathered from the following figures:

	City of Buenos Aires.	City of Rosario.
Private carriages	1,795	317
Livery stables	1,287	67
Coaches on street hire	2,408	395
Automobiles, private	515	12
Automobiles, on street hire	82	....

EXTENT OF EXPORTS.

The main cereal exports for the last three years averaged 5,449,580 tons per annum; ten years ago (1895) the total reached 680,000 tons only. These exports were:

	1907.	1906.	1905.
	Tons.	*Tons.*	*Tons.*
Wheat	2,700,000	2,280,607	2,866,954
Maize	1,100,000	2,611,863	2,277,734
Linseed	740,000	530,024	641,487
Flour	135,000	125,447	129,551
Oats	140,000	53,137	17,442
Total	4,815,000	5,600,578	5,933,168

The increased flour export is entirely due to the larger Brazilian demand, where, notwithstanding the privileges granted to the United States flour, the Argentine article continues to make headway. Of the 135,000 tons for 1907 over 130,000 tons will have gone to Brazil. Nothing better illustrates the rapidity of development that has been going on than a comparative statement of cultivated areas as existing to-day and in 1895 (1 hectare = 2.471 acres):

	1906.	1895.
	Hectares.	*Hectares.*
Wheat	5,692,268	2,049,668
Maize	2,851,300	1,246,182
Linseed	1,244,182	1,020,715
Others	4,109,943	545,440
Total	13,897,693	4,862,005

GOOD CROP OUTLOOK.

The present outlook for the wheat and linseed crops could hardly be improved. With an increased area sown of at least 20 per cent and the market in a rising mood, Argentine growers anticipate an excellent result. Prices now offered for wheat, January delivery, are 20 per cent better than at same time last year.

Quebracho shipments for the first six months amounted to 173,883 tons of logs and 25,348 tons of extract, against 164,354 and 28,378 tons, respectively, in the first half of 1906 and 149,186 and 5,595 tons, respectively, in 1904. Export returns of frozen meats from January 1 to July 31 were:

	1907.	1906.
Carcasses frozen mutton	1,731,142	1,912,127
Quarters frozen beef	801,508	969,236
Quarters chilled beef	235,142	270,624

The following figures from October 1, 1906, to September 1, 1907, may be taken as representing this year's export of wool:

To—	1906-7.	1905-6.
	Bales.	*Bales.*
United States	20,260	30,202
Germany	158,745	177,405
France	151,708	149,622
United Kingdom	44,988	38,647
Italy	3,463	3,053
Various	5,973	8,065
Total	385,137	406,994

Another important export line is that of ox and horse hides, dry and salted. For the first half year of 1907 there were dispatched of these:

To—	No.
United Kingdom	102,950
United States	624,777
France	78,799
Germany	598,295
Belgium	256,295
Italy	119,355
Other countries	71,619
Orders	12,135
Total	1,864,225
Same period, 1906	1,981,717
Same period, 1905	1,827,820
Same period, 1904	1,604,762

LATIN-AMERICAN BANKS.

NEED OF A UNITED STATES FINANCIAL HOUSE IN THE REPUBLIC.

Consul-General Alban G. Snyder writes that after carefully looking over the ground he has formed the opinion that, next to the establishment of an American steamship line to Buenos Aires and other South American ports, the most important movement for the furtherance of American commerce would be to establish an American bank in the Argentine and other South American centers. Mr. Snyder continues:

Among the many unsolved riddles of business this is one that seems so capable of adequate solution that the man of inquiring mind is bound to ask why the American people have so long refrained from establishing banks of their own in the leading South American Republics.

It is a generally accepted axiom of trade that as soon as the volume of business between two countries reaches a suitable figure such business needs the establishment of direct banking facilities between them. Not only is the trade more quickly developed by this means, but it develops along safer lines as far as business credits are concerned. It is clear that this is most important, and that inside information as to general trade conditions and particular financial positions of business houses can best be obtained from bankers through whose hands all such business must ultimately pass. Such authorities are in a favorable position for securing all sorts of information and for gathering statistics of immense value for purposes of comparison, which all tend to influence the trend of trade to and from a country.

COMMERCIAL RATINGS—SETTLING TRADE BALANCES.

A trader seeking to develop his export business should know the prevailing conditions and prospects in the far distant land to which his goods are going and is not likely to venture so far afield unless he is satisfied that the solvency of his correspondents is beyond question and that the source of his information on this score is beyond suspicion. While the consular service has been and can be of much service in this respect, its field of action is limited by statutes and otherwise, and, moreover, the merchant naturally feels safer in dealing with an institution with the methods of whose administration he is familiar and which knows on its part what particular questions and which points of view are chiefly of interest to him.

Again, it must be borne in mind that under present conditions all banking profits resulting from commercial operations between the United States and South American Republics are pouring into the pockets of corporations foreign to the United States. That such profits are very considerable is evident by an inspection of the returns of the established banks in this city, their capital and dividends [a list containing this information is filed at the Bureau of Manufactures], as well as the large figures for imports into South American countries from the United States. Payments for these imports have to be made either in produce shipped or in specie.

This balance of trade is arranged by remittances through the world's bank clearing house, London. In other words, if a merchant in South America needs to send money to New York, he buys from a banker in Buenos Aires a draft on a banker in New York. The price of this draft is determined by the prevailing rate of exchange ruling between Buenos Aires and London in the first place and between New York and London in the second place. As soon as the draft is issued in Buenos Aires some London or other European banker is credited with the amount, and when the draft is paid in New York such London or other European banker is drawn on for the amount by the New York banker. In case other European bankers are employed their balances are ultimately settled in London. In the end London always figures as the seat of ultimate liquidation.

PROFITS IN EXCHANGE.

With the establishment of an American bank such differences would be settled between New York and Buenos Aires direct, because the business would provide room for a rate of exchange based upon the actual balances between the two branches. The profits on remittances and exchanges would be considerable, as merchants would always be able to get a better rate of exchange than they can under present circumstances. In order to secure himself against any unfavorable turn of the exchange between New York and London which he can not foresee—say, thirty days ahead (the time necessary for the draft to reach New York)—the banker here is obliged to quote a rate which includes a good margin of security for himself. If the business could be done direct, the London rate would not enter into the question at all and the rate could be fixed on a much more secure foundation.

Whether the banking community of the United States is too much concerned with internal banking matters or whether it exhibits a turn of character which may be said to be conservative, or whether bankers consider that capital can be better invested otherwise than in foreign banking business, or whether they prefer to work with agents and so leave a large portion of the profit to some one else, the one undeniable fact remains that a valuable field is being daily left unattended and profits legitimately belonging to American interests are allowed to go to outsiders who wonder why the generally astute American should allow such a state of affairs to continue.

The extremely slow banking methods in vogue here, with the consequent loss of much valuable time, and other disadvantages to the greater development of American trade resultant therefrom, all go to emphasize the great need of such an enterprise. Many claim that the methods practiced are rendered necessary by the Argentine banking laws, the difficulty of securing efficient clerks, etc., and many arguments are produced both for and against the founding of an American bank. It is assumed that American banking men, in looking over the field, would carefully investigate such matters before taking definite action.

BUENOS AIRES PRINTING TRADE.

IMPROVED OPPORTUNITY FOR SELLING AMERICAN EQUIPMENT.

Vice-Consul-General Otto Hollender has prepared the following report on the printing trade in Buenos Aires and the possibility of introducing American printing machinery in the Argentine market:

Printers and lithographers in this city have, within the last few years, remarkably reformed their methods, and there are now a number of thoroughly modern and up-to-date establishments here, and others are gradually dropping their antiquated methods and machinery.

It would appear, therefore, that the present is a good time for the American manufacturer of printing machinery to enter this market, as there seems to be a demand for modern American machinery and appliances. According to the statistics for the calendar year 1905 there were imported into this country printing and lithographic presses to the value of $78,388 Argentine gold, of which only $7,692 worth came from the United States, while $58,241 worth came from Germany, almost 75 per cent of the total imports.

While American newspaper, printing, and lithographic inks, as well as type and type-setting machines, have been successfully introduced here and find a ready market, no serious effort has apparently been made by the manufacturers of American printing machinery to introduce their goods. This is probably due to the fact that heretofore printers were obliged to solicit long-term credits, which the American manufacturer is generally not willing to extend, and they were therefore obliged to purchase from one of the dealers in printers' supplies in this city, who furnished them with everything they required and extended the credit asked for.

TENDENCY TO PAY CASH AND DEAL DIRECT.

These dealers, in their turn, were obliged to solicit credit from the manufacturer, and, as the European manufacturer gives this credit, he has obtained the bulk of the business. The prosperity of the country at large, however, has changed the situation somewhat of late, as printers are now willing and able to purchase for cash or on short terms, and there is a tendency to eliminate the dealer and to buy from the manufacturer direct.

A few of the largest newspapers, as well as one or two of the larger printing establishments, some time ago bought some rotary presses and other machinery in the United States, which have given entire satisfaction, and there is no doubt that a good business could be done if the said printing machinery were properly demonstrated by an agent conversant with the language of the country, or if one of the houses established here could be induced to carry the same in stock.

There are some two hundred printing and lithographing establishments in Buenos Aires, as also some twenty newspapers doing their own printing, a list of all of which is forwarded, as also a list of the dealers in printers' supplies [all filed for trade reference at the Bureau of Manufactures].

COLOMBIA.

MARKET REQUIREMENTS.

TRADE POSSIBILITIES—DIFFICULTIES TO BE OVERCOME.

Consul Pierre Paul Demers, of Barranquilla, writes that he is constantly in receipt of inquiries as to the possibilities of the Colombian market, its difficulties, and the means of surmounting them. In reply he presents the following points:

With an area of 500,000 square miles, rich in mineral and agricultural resources, a population of a little over 4,000,000, and a present foreign trade of but about $23,000,000 per annum, Colombia is necessarily a country of great possibilities. Her great handicap is the lack of transportation facilities, although this is gradually being remedied. Concessions have been granted which are gradually being developed, no less than 12 railroads being now under construction in different parts of the Republic. The nation, on the other hand, is using part of the revenues in premiums to agriculturists and in the building of good country highways connecting the principal agricultural centers, thereby creating a domestic traffic which has not existed hitherto. The ocean transportation between the United States and Colombia is very slow, the present schedules being by roundabout ways consuming two weeks in reaching New York, although the distance is hardly 1,900 miles, and that by foreign steamships, as not a single American vessel ever calls here.

GERMAN AND ENGLISH LEADERSHIP.

Barranquilla is a growing commercial city of some 50,000 inhabitants, and she handles about 65 per cent of the total foreign trade of Colombia. The commerce of this city and, in fact, of Colombia is mostly in the hands of German firms. These Germans come here with European ideas and familiar with European merchandise and manufactures. They are already well known in Hamburg or Bremen, where they have good credit and banking and trading relations and, in many instances, their head offices. Naturally, things being equal, they will buy in Germany for patriotic reasons, especially as they can receive their merchandise therefrom as promptly as from the United States, and in many instances quicker. Freight rates in the former case are only slightly higher, and in some competing lines of merchandise actually cheaper. Rice, for example, is 30 cents per 100 pounds from New York to this port, and from Hamburg it is only about 20 cents per 100 pounds, although the distance in the latter case is more than double that from New York.

The German and English manufacturers are largely dependent upon the export trade and work accordingly. They invariably send their very best canvassers all over the world and offer to the fullest extent guaranties and inducements as regards credit, etc.; besides, they make it a specialty to cater to local tastes and demands. They are expert exporters and strictly follow instructions as to packing and shipping. The American, as a rule, exports when he has time and considers the foreign market as his dumping ground. He is only a novice in the art of packing and shipping and will invariably disregard the instructions of his foreign customer. He has been in the habit of doing up his merchandise in a certain way for the domestic market, and it is hard to persuade him to do it otherwise. The chances are that his letters of instructions will be glanced at and filed and the shipping clerks allowed to proceed in their usual manner. It is the existence of such conditions, be it only in a few exceptional cases, that constitutes a serious obstacle to the growth of our foreign commerce.

HARMFUL MISTAKES OF AMERICAN FIRMS.

I will relate a few facts which will exemplify some of the many mistakes committed by American exporters to South America, the elimination of which would have a most salutary effect on our foreign trade:

I once helped place an order in the United States for a full sawmill equipment and urged prompt shipment. It took four months for the mill to come; excuse, too many demands at home. In the rush of business the outfit had not been tested by the manufacturer. Defects were found to exist in the engine and sawmill, and it was necessary to effectuate a protracted dismounting and send the defective parts to the repair shop; result, two months' additional delay, great expense, and the loss of a lumber contract involving many thousands of dollars. On one of the trials, and due to the defects mentioned, the circular saw was damaged and a new one ordered. It came six months later, consigned to a commission house, without any shipping documents or even a letter of instructions, leaving the consignee absolutely in the dark as to the disposition to be made of the saw. The customer himself was not advised of the shipment, although he had written two letters of inquiry in the premises. Much disgusted and rather than have his mill stopped for an indefinite time he purchased at a premium another saw from a local miller. The American article, after being in the customhouse unclaimed for one month through the fault of the shippers, had ultimately to be returned to them. This person will now buy in Europe.

Another gentleman, in order to save time, placed in the United States an order for 200 tons of steel tramway rails, although he could have bought the same rails in Belgium or Germany cheaper. His order was not filled for six months; excuse, too many demands at home. Had he placed his order in Europe, he would have received the goods in three months. He will now buy Belgian or German rails.

SOME SHIPPING BLUNDERS.

On June 11, 1906, a local firm of photographers placed an order, amounting to $50, with a New York supply house, prepaying the purchase money. On August 12 following an acknowledgment of the order was received, with an invoice for $37.34 and advice that the goods had been delivered to a New York express company for forwarding, the firm debiting the customer with $12 express charges. Up to June 13, 1907, nothing further had been heard concerning the shipment, despite letters of inquiry to both the shippers and the express company. Being in great need of the supplies, and hoping for better success, a second order was placed on October 27, 1906, accompanied by a draft for $60, but with explicit directions to deliver goods to the customer's New York agents. An acknowledgment of the second order was received on December 7, with an invoice for $48.60 and express charges of $10, but with the advice that the goods had again been delivered to the same express company for forwarding. On February 23, 1907, having received neither goods nor a reply to letters of inquiry, a registered letter was sent to the express company, which remained unanswered, although the registry receipt slip, duly signed, was returned.

On June 13, 1907, the local firm placed the matter in my hands for investigation, and a few days later I wrote the express company relative to these and several other orders of goods placed in their charge for delivery, giving the shipping numbers of the various boxes, for all of which the express company's receipts had been received although the goods had never arrived. In each instance the goods and express charges had been prepaid. In a reply from the express company, dated July 13, 1907, I was advised that these goods had been forwarded to Santiago, Chile, via Valparaiso, through the error of an inexperienced clerk, who had since been discharged. The goods were ordered back to New York, and reshipped on June 8, and later arrived, all under one consular invoice, consigned to a certain person, found to be a boy in a local bank. The latter refused to have anything to do with them, stating that he knew nothing concerning them, was not the express company's agent, and did not have the money to attend to the matter. In order to expedite matters I took the responsibility upon myself and deputized the largest consignee here to release the goods from the custom-house.

UNBUSINESSLIKE METHODS—SUGGESTIONS TO EXPORTERS.

In this case there was a delay of more than one year, although the purchase money and express charges had been prepaid. The customers were prominent photographers of this city, in great need of their supplies, and because of the delay suffered substantial damages in their trade; besides, some of the purchases, being of a perishable nature, were actually lost. They will now buy in Europe. The express company refused to answer their letters of inquiry and, when pressed for an explanation by the shippers, actually misrepresented the facts.

By the way, the ignorance of some would-be American exporters in points of geography is stupendous. I frequently receive, for example, business letters addressed as follows: Barranquilla, Cuba; Barranquilla, Venezuela; Barranquilla, South America (assuming, I presume, that South America is only one country), etc. A New York button manufacturer, writing for data on the ivory-nut industry of Colombia, said: "I understand that big shipments of ivory nuts are made at your port for Germany via the Isthmus of Panama."

As a means of outlining the requirements to be met, I would offer the following suggestions to those firms desirous of establishing an export business with South American countries:

1. Each country in which they desire to do business should be visited.

2. In their home office should be systematically arranged the tariff, customs, and principal commercial laws of all these countries,

with all changes, whether of laws or conditions, political or economic, carefully posted.

3. Prompt shipments should be made a specialty, even to the detriment of home trade. No attempt to export ought to be made unless ready to do so in the most businesslike manner. Goods should be packed and forwarded strictly according to instructions and local requisites. To better do this, if possible, there should be a department for each country, with shipping clerks well versed in their duties.

4. The very best agents available should be sent to South America, and none but refined Americans of pleasing manners and personality, of sound honesty and business ability, speaking fluently Spanish and, if possible, also French and Portuguese.

5. Goods should be delivered at least as good as represented, and better if possible.

6. It would be well to have branch offices in the largest ports of each country, where reasonable stocks could be carried on hand and a semibanking business done. These branches should have discretion as to credits and, safety being assured, as good inducements should be afforded as are offered by foreign competitors. These branches should also be authorized to receive staple articles of export in exchange for American products; in fact, they should make it a business to buy the exports of the country on a large scale. In the marketing of these exports the brokerage charges at each end would thus be saved.

7. Should such branches not be warranted by the capital available, the best local wholesale house in each port should be selected as a representative.

This export business should not be started with an idea of making a quick fortune. One should be satisfied with expenses for the first two or three years, feeling assured that the business would gradually increase until it would become self-working and profitable.

Why should not a group of American manufacturers combine to organize a South American export and import company for the benefit of their respective lines of goods and along the principles evolved? The same group of manufacturers could take common interest in an independent, but closely related, banking institution, with headquarters in New York and a system of branches in the principal ports and cities of Central and South America. Such a bank would ultimately be a great factor in the development of our Spanish-Americon trade, and its success would merely depend upon proper personal management. There is not an American banking institution in the Republic of Colombia, nor even an established American commercial house that deserves the name.

INVESTMENT OF GERMAN CAPITAL.

EXTENSION OF RIVER NAVIGATION—DEVELOPMENT IN OTHER LINES.

Consul Isaac A. Manning, in the following report from Cartagena, shows the energy which German capitalists are exhibiting in developing commercial and industrial opportunities in the Republic of Colombia:

President Reyes has issued a memorandum respecting navigation and improvement or the Magdalena River and its tributaries. In carrying out the proposals involved it is said that Mr. Luis Giesecken, of Barranquilla, has purchased the boats belonging to the Compañía Colombiana de Trasportes, the Empresa Hanseatica, and the Empresa Perez Rosa, and will combine them with boats belonging to the Empresa Giesecken. An offer was made to the British owners of the Magdalena Steamboat Company, but as it did not also include their railway interests they refused to sell. Owing to a statement made in a certain section of the memorandum, the owners of the Magdalena Steamboat Company feel that they will, at least under their concession, be allowed to continue operating on the river, and they also have little doubt they will be extended the same privileges granted the new company, so far as Government bonus is concerned. Any other action on the part of the Government it is said here would be considered as discrimination against the commerce of Cartagena in favor of its rival port, Barranquilla.

It is hoped by this plan to fix stable rates and reduce the present competition to a condition of profit earning on the part of the two competitive companies. It is declared by Mr. Giesecken that the purchase has been made for a syndicate of German capitalists, although there are rumors that local Colombian capital is also interested in the matter.

It is evident that a great quantity of German capital is coming into Colombia for investment in various ways. Germans now control the tobacco crop of Colombia, and it is said will attempt to do the same with the cotton crop. It is being largely invested in transportation lines and banking, Mr. Giesecken having recently put a large sum into the Banco Central, the principal banking institution of Colombia, and the company most intimately connected with the liquor, manufactured tobacco, and various other monopolies.

ECUADOR.

TRADE CONDITIONS.

NATURAL RESOURCES AND BUSINESS RELATIONS WITH EUROPE.

Consul-General H. R. Dietrich, of Guayaquil, forwards the following information concerning the water supply, population, public buildings, etc., of Quito, and the exports and imports of Ecuador:

Ecuador has at present an estimated population of 1,500,000, and an area of 22,840 square leagues. A large portion of its territory is yet to be explored, particularly that lying on the trans-Andean side, which is reported to possess good soil, rich forests, and in some districts valuable mineral deposits. The chief industry of Ecuador is agriculture. The principal products are cocoa, coffee, ivory nuts, cane sugar, rubber, rice, and tobacco. Its principal port and most important commercial city is Guayaquil, which is situated on the Guayas River, 36 miles from the gulf, and has an estimated population of 70,000.

Quito, the capital of the Republic, is situated in the interior, on the high table-lands in the central part of the province of Pichincha, at the foot of the eastern slope of the volcano of the same name, and on the northern bank of the Machangara River, a small tributary of the Rio Guallabamba. The city of Quito proper is quadrangular, and lies about 9,500 feet above sea level, some 15 miles south of the

Equator. The streets are straight, generally crossing at right angles, very uneven, on account of the difference in elevation in different parts of the city, and few of them are more than 20 feet wide. The streets are paved with cobblestones, and the sidewalks, which are also narrow, are paved with small, rough flagstones from a quarry in the vicinity.

The houses are usually two stories in height, built of adobe, with flat roofs of red tiles. There are few windows facing the streets, the rooms of the houses being lighted from an inner courtyard surrounded by balconies above. The entrance to the courtyard, which also leads to the main entrance of the building, is generally high enough to admit a mounted horseman. Heating is not provided for, though sometimes the temperature drops to the freezing point. The stores are small and usually without windows.

QUITO'S WATER SUPPLY AND PUBLIC BUILDINGS.

The streets are lighted by electricity. Water, which is obtained from the adjacent mountain, is delivered to the city through public fountains or brought in jars from the mountain. At present that served through the fountains is badly contaminated. Ice is brought from the mountain and is also manufactured. Drainage is facilitated by the inclination of the streets, the number of natural drains, and the heavy rainfall. In the city of Quito are five plazas, or squares, a botanical garden, a hippodrome, and two public promenades, the larger being shaded with eucalyptus, oak, and other trees. The city also has five public libraries, two museums of natural history, two chemical laboratories, an arsenal, several hospitals, two banks, and five hotels. There are within its limits thirty-three churches and six convents, occupying nearly one-fourth of its area.

The Franciscan monastery, said to be the largest in the world, possesses extensive farms in the vicinity, and its various buildings occupy an entire square. The most conspicuous buildings are the Government palace, President's palace, archbishop's palace, palace of justice, municipal building, Sucre theater, and the astronomical observatory. Education is provided for by a university, four colleges, a medical school, an institute of science, a school of arts and trades, an academy of fine arts, a theological school, three seminaries, and three schools for young ladies. A telephone service is maintained. Manufacturing interests are represented by twenty-two flour mills, a number of breweries, and a sugar refinery. There are also establishments engaged in the making of woolen blankets, ponchos, bayetas, common carpets, matting, shoes, Indian felt hats, furniture, pottery, saddles, carts, adobe, hard bricks, roofing tiles, chocolate, cheese, and candles.

ART WORK—FOREIGN TRADE.

Quito is noted for the large amount of religious painting and sculpture done within its limits and exported to adjacent countries. Laces and embroideries are also made. Other important industries are the carving and coloring of small figures from vegetable ivory, and the drying of bird skins, particularly the skins of humming birds brought from the Napo River by the Indians. The city has telegraphic connections. Severe earthquakes were experienced in the years 1844, 1859, and 1887. The population is estimated to be 80,000. The distance from Guayaquil to Quito is 280 miles and can be covered in two days.

In 1900 the exports from Ecuador were valued at $7,835,856, of which $1,622,163 went to the United States. The imports for the same year were valued at $6,708,439, of which $1,715,215 came from the United States. The exports in 1906 were valued at $11,690,243, of which $3,920,776 went to the United States. The imports for the same period were valued at $8,505,800, of which $2,328,450 came from the United States. It may be well to remark that the bulk of the imports come from Europe. Furthermore, owing to the many years of experience that the European manufacturers have had in doing business with this country, during which time they have made a careful study of the requirements of its people, and also to their system of allowing long-time credits, it is safe to assume that the American manufacturer, in order to break those long-welded ties, will find it necessary to offer to the importers special inducements in the way of low prices, prompt and careful execution of orders, etc.

CLOSE BUSINESS RELATIONS WITH EUROPE.

In preparing to meet competition in this country, it must be borne in mind that nearly all the merchants here have from the very beginning of their business career acquired a disposition to buy from European manufacturers, sometimes on account of the broad terms allowed them and at other times on account of closer business relations existing. It is not uncommon for European concerns to extend a credit of from six to twelve months. In selecting agents to send here, only those who can speak the language of the country should be chosen. Catalogues and correspondence should also be in the same language. I may further add that the chief cause assigned for the United States not supplying a greater proportion of the trade is its neglect to cater to the demands of this market. Other hindrances are faulty packing and higher freight rates.

Shippers should give special attention to the packing and preparation of merchandise that is to be dispatched to this country. It should be lightly packed, but well protected, for the reason that duties are collected on the gross weight. Every package, besides marks and address, must have also the gross weight marked in kilos (2.2 pounds). Great care should also be taken to comply with the customs law and to secure a certificate from the Ecuadorian consul, whose duties involve the signing of invoices and manifests (sobordos). A list of bales and packages delivered to a vessel for an Ecuadorian port, for which no bill of lading has been secured, must also be presented to the consul by the agent of said vessel before it departs. The list will contain the shipper's and consignee's name, port of destination, gross and net weight in kilos, and declared value.

In order to place American exporters in a position to know the names of the different concerns doing business in Ecuador, so that they may have an opportunity to invite their attention to such products of the United States as are consumed in this country, I have prepared a list of the principal firms in Ecuador. A commercial rating of them is not attempted, but it is presumed that the list will serve the purpose of an introductory correspondence, which may finally result in sales of American products.

[A list of the principal business firms in Ecuador, and the estimated population of the various cities and towns, is on file in the Bureau of Manufactures.]

PARAGUAY.

COMPARISON OF CUSTOMS REVENUE.

STEADY GROWTH SHOWN IN RETURNS FROM FOREIGN TRADE.

Mr. E. C. O'Brien, American minister to Paraguay and Uruguay, forwards from Montevideo a copy of a comparative statement given him in Paraguay by the minister of finance of that Republic of imports and exports in Argentine gold and the revenue derived therefrom in Paraguayan money for the past five years and the first quarter of 1907, the statistics being appended:

Year.	Values (gold).			Duties (Paraguayan paper).		
	Imports.	Exports.	Total.	Imports.	Exports.	Total.
1902	$2,426,381	$3,072,910	$5,499,292	$6,706,535	$2,783,397	$9,489,932
1903	3,506,191	4,147.122	7,553,313	9,548.791	3,411,897	12,960.688
1904	3,565,781	3,196,261	6,712,346	10,506,966	4,564,110	15,071,076
1905	4,678,514	2,833,009	7,511,523	17,941,685	4,888,706	22,830,391
1906	6,267,194	2,695,139	8,962,334	23,515,690	5,536,148	29,051,838
1907 (first quarter)	1,910,590	761,818	2,672,408	7,601,563	1,345,469	8,947,032

GERMANY.

A MODERN EUROPEAN CITY.

NUREMBERG'S ACTIVE COMMERCIAL AND PUBLIC DEVELOPMENT.

Consul H. W. Harris, in the following report from Nuremberg, uses that German city as an illustration of the present-day development of European municipalities along commercial, industrial, and civic improvement lines:

The distinctly modern character of the principal Continental cities calls forth surprise from many fairly well-informed travelers. This is doubtless due in part to the historical or artistic interest that attaches to many of the larger cities tending to divert attention from their industrial side. The mention of Nuremberg, for example, usually suggests a picturesque mediæval city, home of Albrecht Dürer, and sundry other famous persons. Industrially it is a modern city and a very vigorous one. The industries upon which it thrives and which are adding millions to its wealth each year are the usual modern industries of a great manufacturing center, where scores of smokestacks scatter soot in every direction.

In 1905 Nuremberg ranked as eighth city in Germany, with a population slightly less than 300,000. Its present population is estimated at 320,000 or about that of Pittsburg in 1900. It has grown so rapidly that the housing of its population presents a difficult problem, much discussed in the papers. It is a center of varied industries. Its export trade runs far into the millions. The declared exports to the United States from the consular district, of which Nuremberg is the chief manufacturing center, will amount during the current calendar year to nearly $8,000,000 worth. The exports to many other countries are large.

The city is a center of important banking institutions, of a considerable wholesale trade, of splendid retail stores which would rank as excellent in a corresponding American city. Its car service is good and includes a fair suburban service. The city has a popular "taximeter" automobile cab service by which at a low price passengers are rapidly carried to all parts of the city in excellent modern automobiles.

PROGRESSIVE SPIRIT MANIFEST.

The new railway station nearing completion will be one of the largest and finest structures of its kind in the world. Its construction includes a vast project of raising the railway tracks through the city, which is also being carried rapidly forward. The city theater building is a structure which would do credit to any city however large or modern. The city lavishes money on its schools, its museums, and other public buildings. Its civic pride is everywhere apparent and calls forth constant praise from intelligent travelers. One need but follow the proceedings of the city council to discover that the dominant spirit of the city is progressive and modern, not merely as compared with the city of a century ago, but as compared with an American city. The preservation of the city's walls and towers and historic buildings might seem to point to a nonprogressive, mediæval spirit, but it points rather to a keen, modern business foresight that views these things as a valuable investment well worth preserving. Every such historic object is kept in repair and preserved as well as possible.

Much that has been said of Nuremberg might with equal force be said of all the better German cities—of Frankfort, of Cologne, of Chemnitz, and Mannheim, and many others—to say nothing of Berlin or Hamburg, of Dresden or Munich. It might be said of scores of smaller cities of from 25,000 to 80,000 population, and of many continental cities outside of Germany.

For what classes of goods do these great industrial centers furnish a market? How are the factories being equipped, the homes furnished, business facilitated in offices and banks, the population clothed and fed, instructed and amused? The answers can be found, in the main, by applying the same questions to the corresponding American city. Answer to the question as to what class of goods these centers are manufacturing and sending to all parts of the world is to be sought in the same manner. The adoption of labor-saving machinery and appliances in Germany has proceeded less rapidly than in the United States. The lower price of labor, among other things, has tended to retard their adoption.

AUTOMATIC MECHANISMS AND AMERICAN NOVELTIES.

All the leading American and Continental type-writing machines, adding machines, and other modern office appliances are sold in Nuremberg, as they probably are in all the better German cities. Their introduction has proceeded more slowly than in the United States, but all these appliances are now in fairly common use. It is probable that the cash register is quite as commonly seen in Germany as in the United States. Various kinds of automatic machinery for selling railway and other tickets, newspapers, and a great variety of small articles are common in all parts of Germany.

Probably every German city of any importance has one or more handsomely furnished "automatic restaurants," where food and drinks exhibited in glass compartments are automatically delivered to customers on dropping coins into the appropriate slots. The taximeter cab or automobile commends itself to travelers and has long been in use in the leading German cities. American novelties have found ready sale in all parts of the country. American fashion plates for gentlemen's clothing are shown in the better tailor shops of the principal cities. Shoes of American make or "American form" are widely popular. One may read much just now concerning the more general use in Germany of bank checks in the payment of bills according to the usage prevalent in the United States and England. These facts and scores of like facts point to a receptive market in all the leading industrial centers of the Empire for the widest possible variety of goods.

They do not suggest that these centers are dependent in any considerable degree upon foreign countries to supply the demand, but they tend to show that the German buyer, like the American buyer, has cared but little for geographical lines and that the wants of each are for the most part identical. They suggest that the trader who would make headway in the better Continental cities must expect to find much the same alert and discriminating public which is found on the other side of the Atlantic.

PROGRESS AT ROTTERDAM.

INCREASING POPULATION AND EXTENSIVE HARBOR-WORK PLANS.

Consul-General Soren Listoe, of Rotterdam, furnishes a detailed account of the growth of population and harbor improvements in that Netherlands port, from which the following is summarized:

On September 21 the population of Rotterdam reached 400,000, a steady advance since 1830, when the inhabitants numbered only 72,294. In the past seven and one-half years over 80,000 have been added, and it is evident that the next census, to be taken on December 31, 1909, will show a further large increase in population. In comparison with other large cities of Holland, Rotterdam has made the most rapid growth, having increased by 539.37 per cent in the period from 1830 to December 31, 1906, while the percentage of increase in The Hague and Amsterdam was 443.82 and 278.8, respectively, in the same length of time.

The general tendency of movement from the country to the larger cities is to a great extent responsible for the increasing urban population. The Hague evidently has the most attractions for people moving to cities, but Rotterdam has provided the majority of such increase, especially during the past six years, as thousands of well-to-do people and business men have moved their residence from here to The Hague, coming up in the morning and going home in the afternoon by special railway trains, which cover the distance between these two places in twenty minutes. However, Rotterdam is waking up to the responsibilities and consequences of the enormous growth of her population. An energetic city government is in charge of this port, which is constantly assuming the character of a metropolis, with all the material demands and moral obligations connected therewith. The burgomaster, or mayor, recently said:

> It should not be forgotten that Rotterdam is not only a business place, but also a city for residence. A great deal has been accomplished, and plans for a thorough renovation and rebuilding of old parts of the town have been prepared, with a view to bringing Rotterdam up to the mark of a residence city, in which heretofore it has been backward.

APPROPRIATIONS FOR IMPROVING SHIPPING FACILITIES.

Rotterdam's harbors and shipping facilities are the immediate causes of its prosperity and growth. In June, this year, the city council appropriated $13,200,000 for the construction of an additional harbor (to be called Waalhaven), which, when completed, will cover an area of about 800 acres and provide berths for 200 seagoing steamers, thus doubling the present entire harbor accommodations.

Owing to the increasing size and draft of ocean steamers, the Ministry of the Netherlands has laid a proposition before Parliament to the effect that $1,600,000 shall be spent in deepening the New Waterway of the Maas River to Rotterdam, so as to enable vessels drawing up to 32 feet of water to proceed direct to Rotterdam without losing any time in being detained for lighterage at the entrance. The Minister of Waterstaat (Water Affairs), under whose department all matters concerning inland waters and rivers belong, did not make this proposition before he had received the assurance that the city of Rotterdam would participate in the cost of the undertaking upon the basis of 20 per cent of the total cost, and thus $320,000 will be appropriated by the municipality as its share in an undertaking which, while undoubtedly benefiting this city to a great extent, indirectly will be of vast importance to the whole country.

It is typical of the confidence the Netherlanders have in the continued growth of Rotterdam and its future as a great port that the chief of the Department of Waterstaat, in his message to Parliament recommending the expenditure for deepening the New Waterway, states:

> As regards the entries and clearances of tonnage, Rotterdam is the sixth commercial port of the world, being now excelled only by London, Liverpool, New York, Cardiff, and Hamburg, and there really is no reason why it should not surpass even some of these places, as Rotterdam has a situation so favorable, owing to its proximity to Germany and England and its excellent connections by water, that no other port can be compared with it in that respect.

In order to further illustrate the greatness and growing importance of this port, the following table is submitted, showing the number of ships and their tonnage entered during the first nine months of this and of the preceding year at Hamburg, Antwerp, and Rotterdam:

Year.	Hamburg.		Antwerp.		Rotterdam.	
	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.
1907	12,682	9,128,722	4,741	7,182,489	7,701	8,178,587
1906	12,200	8,455,645	4,790	6,760,152	6,906	7,067,717

These figures prove that the people of the Netherlands have a substantial base for their hopes and claims for Rotterdam as a great continental seaport.

GERMAN COMMERCIAL EXPERTS.

GOVERNMENT CONSULAR ATTACHÉS DEVELOPING FOREIGN TRADE.

Consul-General Richard Guenther, of Frankfort, states that the Prussian minister of commerce has requested the representatives of the commercial bodies to call the attention of exporters to a supplement of the "Notices for commerce and trade" which contains a report with reference to the activities of commercial experts attached to a number of German consulates-general, as it is desirable that interested parties should make use of them as much as possible. Mr. Guenther adds:

With reference to the duties of such commercial experts, it is stated that it is intended that they should supplement the functions of consuls-general in a practical way. It is especially their duty to assist commercial agents sent abroad from Germany by practical advice, and to show them the proper way whereby to find a market for the products of German industries. They will also call attention to dangers which threaten German trade either through omissions of its own or through foreign competition, and to noteworthy innovations—as, for instance, the use of new raw materials and processes of working them, new inventions, improved working methods, and other valuable economical phases which exist in the district of the consulate-general. It is furthermore their duty to report on everything which might prove of interest to German industries or trade.

They have also to call the attention of foreign consumers to the products of German industries, the usual terms of sale, and the favorable transportation facilities. It is therefore the duty of these commercial experts to study all questions of a commercial technical nature and others of practical value for the promotion and extension of the exports of German manufacturers.

SAXON EXPORTS TO UNITED STATES.

FANCY PAPER GOODS AND BEADWORK SHOW LARGE INCREASES.

Consul G. N. Ifft, reporting from Annaberg, gives the following information concerning recent exports to the United States from that part of Saxony:

The exports of dress trimmings and beaded bags and belts for the quarter ended September 30, 1907, amounted to $128,527, a decrease of about 33⅓ per cent from the same quarter last year; toys amounted to $19,618, a decrease of about 18 per cent; fancy paper goods, including calendar backs, wall paper, fancy boxes, etc., amounted to $35,412, an increase of about 20 per cent. The weaving of beadwork calls for skilled operators, and the demand has been so great that the manufacturers have had difficulty in securing enough workmen to fill their orders, although the competition for these orders has been so keen that prices have tended steadily lower and lower. Beaded bags and belts promise to remain popular for another season. Outside of the paper goods it is the only Annaberg product that has this year brought repeat orders. The only Annaberg industry that has languished during the year is that of dress trimmings proper. There is still a good demand for crochet buttons, cheap insertions, and collarettes.

ITALY.

TRADE CONDITIONS.

NO INTERFERENCE WITH SHIPMENTS ON RAILWAYS—IMPROVED SITUATION.

Consul James E. Dunning, of Milan, advises that the reports circulated throughout Europe and in the United States to the effect that the recent labor troubles in Italy have crippled the railroad service of the country and rendered impossible the acceptance of freight for interior transportation are not well founded. The consul continues:

The labor difficulties centered at Milan, but were temporary. They did not involve the railroads. There were threats of a railroad strike, but they came to nothing, nor is there the slightest possibility that they will be repeated in a long time. The Government has perfect control of the system, which is now under its direction as well as ownership.

There is considerable congestion of traffic at all entering points and all large centers, accompanied by a shortage of cars, due to crop movements and the rapid intensification of traffic, inbound and out, in consequence of the greatly increased industrial development of the country. It is believed in Milan that much of the difficulty experienced in moving imports from the United States and elsewhere out of the entering points into the interior is due to the steamship situation in the Mediterranean, the most embarrassing part of the burden thereof falling upon the Italian railroads as the last unit in the line of delivery.

No American shipper should withhold consignments on the ground of labor difficulties in Milan or elsewhere in Italy at present. The situation has passed into a much more generally favorable phase. The car shortage is likely to be relieved with the passage of the fall crops and by the arrival of new rolling stock now contracted for and soon to be delivered.

There is at present a temporary depression in the Italian money market, due to a variety of minor causes and not altogether unrelated to low conditions in other countries. General solvency is not affected, and in its present stage as well as in any prospective stages which are apparent to the consulate there is nothing to invite special measures of caution among American exporters.

Demands for sixty to ninety days' time on the part of Italian buyers at this season should not be attributed to any peculiar condition in the local money market, but to the invariable call for such terms, which is based on the usual terms made between importer and retailer in Italy.

BUSINESS TAXES.

STATISTICAL PROOF OF KINGDOM'S COMMERCIAL ADVANCEMENT.

Consul Dunning furnishes the following information concerning taxation of business in Italy, and the increasing income therefrom:

In Italy there is a tax on each commercial account, collected through a stamp affixed upon each set of books, which are themselves subject to review by the authorities. All commercial documents, checks, notes, bills, declarations, and statements must bear the stamp by which the stamp tax is collected, in order to be valid, and there is a severe penalty attached to the effort of attempting to pass a check, or even to indorse it, prior to the affixing of the stamp. All checks, drafts, and notes must be taken to the stamp office (unless previously stamped by the bank) and duly legalized before anything can be written on the reverse.

The great increase in the amount collected in taxes on business enterprises is one of the most striking proofs of Italy's commercial advancement. The income from this source enjoyed by the Government in 1905–6 was $3,208,000 above that collected in 1904–5. Of the total sum so collected, the income from six principal cities was as follows: Milan, $5,050,000; Rome, $4,000,000; Naples, $2,500,000; Genoa, $2,850,000; Florence, $2,000,000, and Venice, $1,400,000. The total income from taxation of this nature in 1905–6, and the increase or decrease, as compared with 1904–5, was as follows:

From—	Tax collected.	Increase (+) or decrease (−).	From—	Tax collected.	Increase (+) or decrease (−).
Inheritances, simple...	$8,000,000	+ $192,000	Administration of estates..................	$3,800,000	+ $450,000
Incorporated inheritances..................	1,120,000	− 22,000	Mortgages.............	1,200,000	+ 75,000
Commercial accounts..	15,680,000	+1,800,000	Government grants, special...............	2,000,000	− 12,000
Stamp tax.............	14,000,000	+ 725,000	Total	45,800,000	+ 3,208,000

Inheritance taxes in Milan during the year 1905–6 amounted to more than $800,000, which was considerably more than was collected in any other province of the country. The whole report is in general an indication of the predominance of Lombardy and the northern provinces in the finances of the Kingdom.

SALES OF MACHINERY.

GOVERNMENT REGISTRATION PROTECTS SELLER AS TO PAYMENT.

Government protection as to payment is given to the firms who sell machinery in Italy, according to the following from the London Commercial Intelligence:

> In response to inquiries on the subject, the British consul at Rome reports that, pursuant to section 773, paragraph 3, of the Italian commercial law, every important sale of agricultural or industrial machinery in Italy may, within three months from date of invoice, be registered at the chancery of the civil and penal tribunal of the town where the machinery is to be installed. This registration is an act of protection for the final payment of the price of the machinery in question.
>
> In order to secure the privilege of registration, it is necessary for the seller of the machinery to send in an application (*nota di trascrizione*) addressed to the "Regia Cancelleria del Tribunale Civile e Penale, Sezione Commerciale" of the town where the machinery is installed, giving all the necessary details regarding price, terms of payment, etc. The said application must be drawn out in duplicate on Italian stamped paper of 3.60 lire (lira=19.3 cents), as one copy will be returned by the tribunal after effecting registration, and should be accompanied by a copy of the contract for the sale of the machinery, or, in default of such contract, by a copy of the invoice. These copies must be stamped and registered with the Italian Government at the competent office, and an amount sufficient to cover the postage for the return of one of them should be sent to the tribunal. It is not necessary for the application for registration to be confirmed in any way by the buyer of the machinery.

IMPROVEMENT OF CONSULAR SERVICE.

INDUSTRIAL CONFERENCE URGES BETTER FACILITIES.

Consul Dunning further states that the plea made at a recent industrial conference in Milan for more attention from the Italian consular service is particularly frank and is based on the proposition that, as the service is now equipped, its statistics furnished to the home market are deficient in quantity, in that exact accuracy which is necessary to the purpose of the trade, and in that timeliness which renders consular reports valuable if they are to be made valuable at all. For these reasons it is urged that the consular service of Italy be equipped in the markets from which information is to be drawn with special facilities for gathering statistics and forwarding them home, not only in accurate original form, but with all possible dispatch in order that the reports may be placed in the right hands in time to be of service.

SPAIN.

HIDE AND LEATHER MARKET.

RECEIPT OF HIDES FROM ABROAD—CURRENT PRICES AND CONDITIONS.

Consul-General Benjamin H. Ridgely reports that Barcelona is a considerable market for South American hides, and the recent arrival of a cargo marked the opening of the season in that Spanish port. He adds:

The vessel landed 15,191 Buenos Aires and 5,100 Montevideo hides. Sundry small lots have also been received from European ports. The hides from South America were mostly consigned direct to tanners, while some were sold on the quay privately at prices which were not disclosed, but the trade in general remains in a half paralyzed condition. Official quotations per kilo (2.2 pounds) are as follows:

	Cents.
Cordova hides:	
Superior quality, winter hair	53–55
Good quality	52–54
Buenos Aires:	
Superior quality	50–53
Fair quality	49–50
Entre Rios:	
Good to superior quality	50–52
Fair quality	49–50
Corrientes:	
Good to superior quality	50–52
Fair quality	50
Montevideo:	
Good to superior quality	50–52
Fair quality	49–50
Paraguay:	
Good quality	48–49
Fair quality	46–47
Mexican	45–46
China:	
First quality	49–50
Second quality	46–47
Karachi:	
First quality	47–48
Second quality	44–45
Dry salted Canary hides	29–31
Dry salted Morocco hides	26–28
Calfskins:	
Cordova—	
Superior quality	50–52
Fair quality	46–47
Montevideo	46–47
Buenos Aires	40–42

For more than a year the hide and leather trade in Spain has been, from the sellers' point of view, in a very unsatisfactory condition. Tanners, who mostly work with insufficient means, have been carrying stocks upon which they were obliged to realize from time to time under-market values in order to meet their engagements. Briefly stated, the output had been in excess of the demand and tanners found themselves at the mercy of the leather dealers.

The fall in the gold value and consequent rise in the value of the silver currency of this country effectually put a stop to the export of Spanish butchers' hides, which were beginning to find a good market abroad, several shipments having even been made to the United States. These hides, being thrown on the domestic market, have therefore replaced the same quantity of sole-leather hides formerly imported from China and the River Plata.

The importance of Barcelona as a market for hides may be seen by the following figures for 1906, which was in no sense a record year, as many as 500,000 hides having previously been imported from Buenos Aires and Montevideo during a season; Dry River Plata hides, weighing as a rule about 20 to 23 pounds, used for sole leather, about 300,000 hides; Calcutta light hides, including those weighing under 5 pounds, used for uppers, and those averaging about 10 to 12 and 14 to 16 pounds, used for inner soles, 4,572 bales; dry poisoned Sindh or Karachi hides, 955 bales.

Barcelona is the center of an important boot and shoe industry, and dressed leather is imported in considerable quantities. If the prices for American goods of this character are reasonable enough, there is a market for them here. Correspondence with Barcelona importers [list filed at Bureau of Manufactures] must be in Spanish, the weights and measures expressed in terms of the metric system, and quotations in French francs, c. i. f. Barcelona (not f. o. b. New York). Commercial travelers representing dressed-leather houses of Germany are nearly always in evidence at Barcelona, and many of them sell American leather, which is well liked, from stocks at Hamburg and elsewhere in Germany.

PORT OF HUELVA.

NEW DOCKS AND WHARVES AT IMPORTANT SHIPPING POINT.

Consul Louis J. Rosenberg forwards from Seville the following report on the shipping importance of the Spanish port of Huelva:

Of all the Spanish provinces, Huelva is the one giving the best results in mineral production. A great advantage of the province lies in its convenient port, which has sufficient sea front to facilitate shipments. Huelva is known for its rich mines, about a dozen companies now successfully operating them. [The most important of these companies are listed at the Bureau of Manufactures.] Owing to the lack of apparatus for treating the ore mined, these companies export their entire output. According to a journal regarded as the official organ of the Chamber of Commerce of Seville, the countries to which the entire production of ore is exported are in the order of importance as follows: England, 480,000 tons; United States, 320,000 tons; Germany, 300,000 tons, and France, 180,000 tons. The remainder is shipped to Belgium, Sweden, and Italy.

The maritime traffic of Huelva during the year 1906 reached 3,000,000 tons, making this port, from the standpoint of its exportation, second in Spain. The number of ships which entered and cleared in that period were 1,230, classified thus: British, 549; Spanish, 314; German, 192; Norwegian, 48; Italian, 40; Danish, 33; Swedish, 13; Belgian, 12; Dutch, 12; French, Austrian, Russian, Greek, and Portuguese making up a total of 17 ships more.

The amount collected by the custom-house during the same year reached about $1,315,081. In addition to the three-story iron wharf now used and belonging to two mining companies, the port will have a new one from January 1. This new wharf will be a modern iron and steel structure 1,886 feet long with double tracks running its whole length and six at the pier head, thus providing for an active movement of trains. It will also be equipped with eight large, modern cranes from Germany. When this new wharf is opened to traffic the old one will be used by ships carrying general cargo, making four docks available for this class of merchandise, by which it can be given prompt attention. Plans have also been made for five steel and concrete piers to be used exclusively for local traffic.

UNITED KINGDOM.

TRADE OF HULL.

COMPARISON SHOWING IMPORTANCE OF PORT IN BRITISH COMMERCE.

Consul Walter C. Hamm, at Hull, England, makes the following report on the foreign trade of that port:

Hull is the third port in imports and the fourth port in exports in the United Kingdom. This fact is shown in the following table, which gives the value of the imports and exports at the leading ports of England, Scotland, and Ireland for the past two years:

Port.	Imports.		Exports.	
	1905.	1906.	1905.	1906.
London	$905,306,325	$997,036,555	$315,956,155	$348,160,115
Liverpool	696,477,485	723,508,250	588,461,070	647,718,465
Hull	162,729,430	177,686,985	79,508,220	98,184,310
Manchester	116,453,980	132,681,370	59,782,570	64,604,060
Southampton	76,711,730	82,591,220	58,582,610	68,241,935
Glasgow	71,472,105	76,981,905	116,957,615	128,386,765
Grimsby	53,437,105	55,611,465	57,285,685	69,272,495
Newcastle	47,771,340	49,465,620	39,275,875	52,104,580
Goole	39,631,340	38,558,650	42,064,180	52,225,920

Even this showing does not do full justice to the neighborhood of Hull. The three Humber River ports, namely, Hull, Grimsby, and Goole, are situated so near together that they are to all intents and purposes one port. When combined their imports and exports make the following total: Imports, 1906, $271,857,100; 1905, $255,797,875; exports, 1906, $219,682,725; 1905, $178,858,085. This indicates an increase for last year over 1905 of $16,059,225 in imports and $40,824,640 in exports. Treated in this way the Humber River is seen to far surpass the Clyde River and to have about one-third as much commerce as Liverpool. The three Humber River ports mentioned have nearly 400,000 inhabitants, and within a radius of 50 miles around them are several millions of people. During each year between 4,000 and 5,000 ships enter and clear from the Humber ports, having an aggregate tonnage of at least 4,000,000 tons. These ships sail to all the important ports of the United States, Canada, Cuba, South America, Norway, Sweden, Russia, Denmark, Germany, France, Spain, Italy, Egypt, India, China, Japan, Australia, and New Zealand. These facts sufficiently indicate the position of the Humber River among the ports of the world.

PROPRIETARY ARTICLES IN SCOTLAND.

LARGE SALES OF AMERICAN MEDICINAL AND OTHER PREPARATIONS.

Consul Rufus Fleming, of Edinburgh, forwards the following information concerning the trade in proprietary articles in Scotland:

There is in this district a large trade in a variety of American proprietary articles, such as medicinal preparations and appliances, toilet articles, household articles, and food specialties. As to some of these classes of goods the trade here has been important for many years. They have become staple goods, with a sure market, and as a rule there is no great variation in the sales from year to year excepting in the instances of articles now and then widely advertised. Broadly speaking, the present tendency of this trade is distinctly upward, due to some extent, I am informed by the principal dealers, to the greater care exercised by American manufacturers in placing the goods.

In every country the personal element counts for much in business, and perhaps in no country does personal and direct dealing with representative houses bring better results than in Scotland. For all of the various proprietary articles of real merit, adapted to the climate of the country and the customs of the people, the market here is an expanding one, especially if the goods are judiciously advertised, although it has been demonstrated to be a mistake in Scotland to make extravagant claims for any article.

Many American pharmaceutical products are extensively sold in this part of the United Kingdom. In regard to these preparations in general, it has been noticed by the local wholesale firms that an article which commends itself to the medical profession or prominent members of that profession in Edinburgh is soon in demand, and the local sales increase constantly up to a certain point, determined by the purpose of the article, etc. About six months after the trade has become active in this city and vicinity, the demand from other cities and towns in Scotland attains a considerable volume. A leading wholesale chemist says that this wave-like movement of trade is the common thing in his line of business and that its origin and direction are invariable. In the matter of a new pharmaceutical preparation, Edinburgh may follow London opinion, but Scotland follows only Edinburgh.

PER CAPITA SUGAR CONSUMPTION.

AMOUNT HAS MORE THAN TREBLED IN FIFTY YEARS.

Consul F. W. Mahin, of Nottingham, in a recent report states that the annual per capita consumption of sugar in the United Kingdom has gradually increased from 29½ pounds in 1857 to nearly 100 pounds at the present time. But the British refining industry has steadily declined relatively. Fifty years ago practically all of the sugar used in the Kingdom was refined here, while now the proportion is only 45 per cent.

FRANCE.

DENTAL SUPPLIES.

AMERICAN ARTIFICIAL TEETH AN IMPORTANT FACTOR ON THE MARKET.

Consul-General Robert P. Skinner, of Marseille, forwards the following information concerning American dental supplies in France:

There are few industrial fields in which American supremacy is so fully recognized as in the manufacture of dental supplies of all kinds. The American dentist had become a feature in Europe years before there was any talk of an American industrial invasion and he was silently and modestly creating a demand for dental supplies from his own country, which has extended more or less to all dentists, native and foreign. At present, under the influence of laws prevailing in several European countries, including France, the American dentist is prohibited from engaging in practice under the diplomas of his own country, and the older practitioners who had established themselves in Europe before this legislation became effective are gradually becoming fewer in number, so that henceforth American manufacturers must look more and more to themselves to encourage the use and sale of their goods.

It is somewhat singular that in spite of the considerable European demand for American dental supplies and the extremely favorable conditions under which they have been introduced, American manufacturers have almost invariably preferred to do business through foreign houses, who place American products on sale alongside of similar wares of British, French, or German manufacture. There may be a few strictly American firms, limiting themselves to goods of their own importation, in England or Germany, but I am told that there is no such house in France, and I am not able to discover that Marseille dentists have ever been waited upon by a traveling salesman representing a line of American goods. The difficulty, therefore, in finding openings for such supplies is rather in securing a satisfactory general agent than in actually selling the goods. Newcomers in this field, as in many others, find the established, reliable houses already handling full assortments and ordinarily indisposed to increase their lines.

Yet, if my inquirers have the capital and patience necessary to such an enterprise, they might very likely come abroad themselves and profit by the high standing of American dental supplies generally, working for French business in their own way and controlling the trade so created in their own name, without danger of losing it at the first suggestion of cheaper goods from some other manufacturer or dealer.

English and American artificial teeth practically control the French market; gum teeth are little employed. American chairs are expensive and are used by fashionable dentists. Greater energy in presenting them would bring adequate reward. There is English, French, and German competition in most lines of supplies. Marseille dentists are mostly supplied by a local firm with whom correspondence is recommended. Traveling agents also visit this city from various Parisian firms. [A list of wholesale dealers in dental supplies in Paris and Marseille is on file in the Bureau of Manufactures.]

SERVIA.

EXTENT OF EXPORT TRADE.

INCREASED SHIPMENT OF NATIVE PRODUCTS TO FOREIGN COUNTRIES.

Consul M. K. Moorhead, of Belgrade, submits the following report on the exports and finances of Servia for the first six months of 1907, as taken from the Official Gazette of that Balkan country and from his consular statistics:

The weight and value of exports from Servia to the various countries were published as follows:

Country.	Pounds.	Value.	Country.	Pounds.	Value.
Germany	133,101,253	$1,853,305	Switzerland	198,042	$15,260
Austria-Hungary	10,571,913	664,128	Russia	124,538	4,940
Turkey	41,836,916	650,018	Montenegro	3,412	110
Belgium	35,983,188	490,439	All other countries	98,958	1,040
Bulgaria	39,076,349	388,613			
France	3,273,059	802,583	Total	288,025,204	4,910,759
Italy	1,731,292	295,905	1906 (six months)	266,832,771	4,157,869
Roumania	21,418,613	188,498	1905 (six months)	236,824,566	3,888,262
Bosnia	307,648	82,680	1904 (six months)	132,190,573	3,500,379
England	300,073	23,240			

According to invoices certified in this consulate, however, the declared exports to the United States for the first six months of 1907 amounted to $20,498, the items of which were. Antimony regulus, $5,475; goat hides, $6,300; hemp, $1,896; and prunes, preserved, $6,827.

The Servian exports for the first half of 1907, by articles, were as follows:

Agricultural products:	
Barley	$133, 791
Bran	93, 129
Corn	1, 754, 171
Flour	28, 183
Hemp	40, 616
Oats	170, 264
Prunes preserved in their own juice	70, 916
Prunes	84, 691
Rye	44, 406
Wheat	211, 170
Animals:	
Cocoons	47, 603
Bulls and cows	8, 140
Horses	85, 339
Oxen	114, 837
Poultry and other animals	274, 836
Animal products:	
Eggs	$144, 884
Hides	272, 438
Lard	176, 306
Meat	437, 215
Manufactured articles:	
Of rope	83, 507
Of wood	167, 118
Of all other materials	139, 860
Minerals:	
Briquettes of coal dust	10, 252
Coal	25, 199
Copper and lead shavings	122, 270
All others	169, 618
Total	4, 910, 759

During this period 6,343,564 pounds of meat and bacon and 2,010,798 pounds of lard were produced in the various abattoirs of Servia, and 9,422 hogs, and 6,298 oxen, alive, were exported. The number of hogs, alive and slaughtered, exported in the first six months of 1907 amounted to 47,422.

During the first six months of 1907 the receipts from direct taxes in Servia amounted to $300,000 more than for the same period of 1906. The receipts from the Servian State Railroad for the seven months ended August 1, 1907, amounted to $1,106,968, as against $939,002 for the same period of 1906, or an increase of $167,966, or about 15 per cent. The receipts of the custom duties from January 1 to August 1, 1907, were $1,257,989, and in 1906, for the same period, $689,491.

SWITZERLAND.

EXPORTS TO THE UNITED STATES.

LARGE INCREASES SHOWN IN MANUFACTURED PRODUCTS.

There was a large increase in exports of manufactured products from Switzerland to the United States in the nine months ended September 30 last, the aggregate for 1907 being 112,118,752 francs against 96,221,079 francs for the nine months of 1906, those amounts being equal to $21,638,919 and $18,570,668, respectively, an increase of $3,068,251 in favor of 1907. The following table shows values of leading articles exported from Switzerland to the United States for the first nine months of the years 1906 and 1907, the figures representing francs (1 franc=19.3 cents):

Articles.	1906.	1907.
	Francs.	*Francs.*
Silk and half-silk piece goods	9,108,083	11,445,070
Bolting cloth	926,177	1,026,185
Ribbons (silk and half silk)	3,219,393	3,182,910
Silk, spun	6,766	862,533
Floret silk	2,507,275	3,463,225
Total silk goods	15,767,694	19,479,923
Embroideries	47,738,601	56,898,055
Animal hair	14,492	....
Cotton yarn	616,145	446,064
Cotton and woolen materials	4,007,625	4,384,618
Knitting goods	1,906.033	2,278,067
Straw plaited goods	285,940	800,870
Watches and watch supplies	8,852,728	9,664,069
Music boxes	178,942	185,927
Scientific instruments	120,573	141,720
Machinery	468,941	359,181
Hides and skins	1,601,601	2,206,119
Leather	....	1,589
Aniline dyes	3,006,752	2,987,278
Other dyeing materials and chemicals	590,137	711,164
Cheese	6,963,716	8,271,434
Condensed milk and creamery products	99,492	159,219
Chocolate	2,154,075	2,032,718
Spirits	91,669	84,002
Various articles	1,785,723	1,576,745
Total	96,221,079	112,118,752

FRENCH GUINEA.

DEVELOPMENT OF THE COLONY.

STEADY PROGRESS SHOWN—SMALL TRADE WITH THE UNITED STATES.

Consular Clerk M. B. Kirk, of Paris, states that France has much to be complimented on her progress in the colony of Guinea, where steady advances are being made into a country in which natives of France can hardly live and even maintain good health in the most favorable seasons. Mr. Kirk continues:

The facilities for trade with the interior are greatly hindered by the watershed of the Fouta Djallon, which almost divides the colony in two. This is almost counterbalanced by the many broad streams suitable for the light native boats. Trading and the gathering of oils and gums are the principal native industries. The mango and kola trees are commercially the most productive of the extensive forests. Rubber culture has been seriously injured by the crude process of gathering in former years, and now the Government is attempting to introduce more scientific methods, but is meeting with poor success. The Government is also endeavoring to increase the cultivation of cotton, and fair progress has been made. Banana culture and stock raising are meeting with only fair success. Coffee plants have been set out in the Rio Nunez Valley, and although the bean is small, it is of fair quality. Tobacco is of poor grade, and the natives seldom use it except when American tobacco can not be obtained. The potato is becoming quite a food staple, and a successful attempt has been made in the cultivation of cacao near Dubrika. There are also some twenty different varieties of sorghum on the coast. Rice is the staple food of the natives. Two varieties are grown—the white, large-grained American, and a hard small-grained rice, called the "mountain" or "red ball."

MINERALS—TRANSPORTATION—POSTAL AND TELEGRAPH SYSTEMS.

Minerals are rare. The natives work some of the iron and gold deposits for their own immediate needs. There are slight traces of these minerals in many parts, and a large bank of bisulphate of iron mixed with potter's clay has been discovered under the basin of the Rio Nunez, and brings $6.25 a ton in Paris.

Trade is still mainly carried on by means of the waterways and caravans, but the completion of the railroad to the headwaters of the Niger River is only a matter of a short time. This railroad extends from the Konarky to the great interior city of Kouraussa. The road will be of the greatest value to the colony, tapping the fertile Niger Valley, and will form a more rapid outlet for the interior trade than that which the caravans and boats now afford.

The postal system is well handled, and communication with the interior is carried on by native runners. The parcels post is also in use. The telegraph service is extensive for such a wild country, but is used mainly for Government service. There were about 2,600 kilometers (1,615 miles) in use in 1905. The total telegrams amounted to 32,375. The telephone was established at Konarky in 1903.

LARGE GAINS IN BOTH IMPORTS AND EXPORTS.

The last figures obtainable on commerce are those for 1905. In that year the total imports were $3,652,489, against $2,856,798 in 1904, and the exports were $3,160,117, against $2,639,321 in 1904, a gain of $1,316,487 in the total commercial movement. The countries of origin of the imports of 1905 were as follows:

Country.	Value.	Country.	Value.
United States	$62,135	Liberia	$364,791
France and colonies	1,490,649	Portuguese Guinea	4,283
England	1,185,370	Other countries	99,956
Germany	391,533		
Sierra Leone	53,822	Total	3,652,489

The principal imports of 1905, with the gains over 1904, were:

Articles.	1905.	Gain over 1904.	Articles.	1905.	Gain over 1904.
Animal products	$32,185	[a] $8,209	Metals	$231 501	$189,018
Alimentary flours	235,293	26,996	Glass	54,745	58,094
Fruits and grains, and same for medicinal purposes	404,254	245,585	Textiles	1,188,676	72,145
Vegetable food products	124,776	28,891	Metal work	661,085	277,496
Liquids (drinkable)	117,673	12,456	Arms and ammunition	145,177	81,221

[a] Decrease.

The imports of 1905 show a decided increase in nearly all products, and France and her colonies have gained considerably at the expense of other countries. The large increase in metal work was caused by railroad construction. All railroad and electrical supplies, to the amount of $458,316, came from France. Textiles, the largest import in 1905, also show a gain over 1904, caused mainly by the over importation in 1903. Of this gain, $43,598 was for cotton textiles. These textile imports came from the following countries in 1904 and 1905:

Year.	France and colonies.	England.	Germany.	Other countries.
1905	$152,042	$936,829	$80,957	$18,848
1904	120,842	888,491	102,201	4,997

Crude rubber is the chief export of the colony, $2,459,393 worth being exported in 1905, against $2,096,480 in 1904. The quantity shipped in 1905 was not much larger than that of 1904, the difference being caused by the higher price of raw rubber.

The colony imported from France, in 1905, $1,471,895, and exported $928,855. These figures represent 35 per cent of the total commerce, 40.4 per cent of the imports, and 26.6 per cent of the exports.

The poor showing of the United States in trade with French Guinea is mainly due to the smallness of our merchant marine. France, England, and Germany each maintain a regular line of fine steamers, which, sailing from their home ports, carry their own merchandise, and in return they gather up nearly all the exports for their home markets. The west coast of Africa is still the country of barter, and in order to obtain trade, trading posts must be maintained. Commercial enterprises in this colony can not be managed successfully from an office in far-off America, but business must be done on the spot on a large scale and with a good quality of goods.

FRENCH SOMALILAND.

CLASSES OF COMMODITIES IN DEMAND.

COMMERCIAL LIFE AND POSSIBILITIES IN EAST AFRICAN COLONY.

Consular Clerk Kirk also presents the following facts of interest concerning the French East African possession and its adjacent territory:

Jibuti, the chief city of the French Somali coast, might in fact be called the port of shipment and entry for the fertile country of the Kingdom of Abyssinia. Aided by the railroad, which will eventually penetrate through the vast Abyssinian plateau as far as the eastern frontier of the Kongo Free State, this colony controls a great part of the trade of the hinterland. It is reported in a Paris paper that the Negus Menelik has granted a concession to a German company to run an automobile line between Adis Ababa, the capital of Abyssinia, and Yirelana, the journey taking two days instead of eight by caravan.

The chief commodity imported is cotton goods, a large part of which comes from America. The cotton textiles sold in this colony and in the hinterland may be divided into six classes, as follows:

Unbleached textiles, plain textiles (bleached), textiles with figure designs, white muslins, textiles dyed, and printed textiles.

The unbleached textiles represent the principal article of import and they comprise nearly all the "aboudjedid," the unbleached cloth which circulates in Abyssinia as money. The quantity of aboudjedid annually consumed is valued at $1,160,000, and this article comes mostly [though indirectly] from the United States. England sends some, and in the year 1900 a consignment was received from Rouen, but did not meet with much success, and since then France has made little attempt to secure this trade. The importations of the plain textiles, bleached, amount to about $60,000; those of the textiles with figure designs are about $160,000, and the imports of muslin reach about $100,000. These textiles are used mainly for the dresses of the women of Abyssinia and come mostly from England and British India. Dyed textiles are not very much imported, and the annual sales do not as an average reach over $25,000 a year. The printed textiles are imported to the value of about $20,000, and the most in demand are those with red figures, which are used mainly for household decoration. The brands most preferred by the natives are the camel, the star, the lion, and the effigy of the Negus. Many other brands or marks exist, but there appears to be the greatest demand for those mentioned. As the red umbrella is reserved for the royal family in Abyssinia, umbrellas of other colors than red and of a very cheap quality are in use.

OTHER ARTICLES OF IMPORT.

Rice is the principal food of the natives, and most of this comes from India via Aden, but recently a successful attempt has been made to import rice direct from Indo-China. As the Abyssinians are not forbidden by their religion the use of alcoholic liquors, there is a good chance for the introduction of wines and spirits of a low price. Perfumes are in demand, but the quality used is of a very low grade. Tobacco is sold in leaf and comes mainly from the Arabian coast. This is either smoked in the "nargiles" or chewed when mixed with lime.

Hardware sells very well, and the greatest demand is for files of all sorts, hinges and joints of all sizes, screws, nails, strong locks (but not very large), padlocks, cutlery, scissors, razors, and torches. The principal metals imported are steel in bars, and wire, soldering tin, lead in bars, mercury for glazing, and galvanizing zinc for roofing.

Pharmaceutical preparations are in demand on account of the fever and other diseases which are prevalent in certain districts, and the natives accept willingly all European drugs. Sugar, candles, soap, black pepper, and cloves find a fair market.

Sheep leather tanned red sells the best, but violet, green, yellow, and blue tanned sheepskins are used a great deal in harness making. Many grades of glass are sold, the Austrian glass and that of Venice having the majority of the trade. Salt forms an important article of barter, and when pressed into a certain sized cake serves as money and is called "amoulles." To complete this enumeration, a few articles like hats, shoes, watches, carpets, paper, and mirrors may be added, but it must be understood that all the articles mentioned are of a cheap quality.

CLASSES OF EXPORTS.

The principal articles of export from the French and English ports on the Gulf of Tadjourah and the Somali coast are the following:

Mother-of-pearl is found on certain parts of the coast near the Muscha Islands and the entrance of the Gubbet Kharab, but the quality is only fair, as the shell is thin. Gums, exported mainly from the territories of Gadaboursi and Issas, are valued at about $100,000, and are shipped chiefly to Europe and Aden via Berberah, in the British protectorate.

The ivory is much valued, especially that procured in the country of the Arroussi-Gallas. Herds of elephants are numerous, but the continued slaughter of these animals by the Abyssinians has greatly reduced their numbers; and it is reported that in the country of the Gallas, as yet unexploited by the Europeans, the natives form the defenses of their granaries with elephant tusks. Gold is found only in small quantities mixed with platinum. Civet musk forms a considerable item in the commerce in the land of Chao. At Harrar wax is abundant and of good quality, and the approach of the railroad will tend to greatly extend its exportation. There is a large increase in the shipments of coffee, that from the regions of Harrar being of an excellent quality, and with little care three crops can be obtained yearly. Most of this crop is shipped to Aden.

Horses, donkeys, and mules are not only very numerous, but are hardy and easily acclimated for use in the Tropics, and the French are now purchasing these beasts for use in their colony of Madagascar. The tribes which inhabit the country between Abyssinia and the Red Sea are essentially a pastoral people, and traverse the country with great herds of cattle, camels, and sheep. This hinterland not only furnishes meat provisions to the passing ships, but also supplies the ports of the Red Sea, and Aden also receives nearly all its meats from this source. The trade in hides and skins is becoming important and shows a good increase yearly.

Trade can only be successfully carried on in these regions with a large capital, as long credits are demanded. The employees should be young men, in order to resist the climate and to support the fatigues of long journeys which it is necessary to make into the interior for trade.

MOROCCO.

MARKET FOR FOOTWEAR.

GOOD FIELD FOR AMERICAN BOOTS AND SHOES FOR MEN.

Vice-Consul-General G. E. Holt, writing from Tangier, says that among the various products which would find in Morocco a sale which would be moderate at the beginning but which would increase satisfactorily as the market is developed are boots and shoes for men. He continues:

Not only would they promptly attain popularity among the European residents in Morocco, but there are thousands of semi-Europeanized Moors who have forsaken their native "bilgha" for the more stylish, if less comfortable and convenient, "Christian" boots. The class of boots and shoes at present in demand with the average foreigner here is of Spanish make and retails at $2.50 to $4 Spanish currency, which are 10 per cent less than in American values. The leather used in their manufacture is inferior to that generally used in American boots, being thin and poorly tanned, and a month's wear usually suffices to render unfit for wear the boots or shoes into which it is made. A small quantity of English-made boots and shoes are also sold here, and, because of better leather and workmanship, are growing in favor. They sell for practically the same prices as the Spanish-made goods. There are hundreds of shoemakers in Tangier alone who make boots and shoes to measure, those usually produced having the long, narrow toe, the style in Spain, although certain shoemakers have learned the American and English patterns, in which they will make a pair of boots or shoes for $5 to $7.

LINES WHICH WOULD BE POPULAR—CREDIT CONCESSIONS.

A line of men's boots, made to retail at $2.50 to $5 Spanish, would be the proper class of goods upon which to attempt to develop the Moroccan trade, supplemented, perhaps, by a line of shoes running in price from $2 to $3.50. They should be strongly made, but at the same time have the style and fit which have made American shoes the standard the world over. Provision should be made for the fact that they must endure considerable wet weather and that the sidewalks and streets of Morocco are constructed of extremely poor quality of cobblestone where they are not mother earth.

The question of credits applies in this case as well as in all other dealings with Morocco. While the American exporter as a rule is decidedly averse to extending credit, to secure business in Morocco conditions demand that certain concessions be made—if not a full credit, at least one of ninety days (after receipt of consignment) on one-half the amount of the invoice. The few foreign firms established here are, quite naturally, representatives of European concerns, and consequently the American exporter who wishes to secure Moroccan trade must depend upon the efforts of others not already established in such business connections but who have some capital and a desire to develop American interests in Morocco.

MADAGASCAR.

DECLINE IN TRADE OF ISLAND.

DECREASE IN VARIOUS IMPORTS—CONDITION OF THE EXPORT MARKET.

Consul J. G. Carter, reporting from Tamatave, gives the following information concerning the commerce of Madagascar for the first six months of 1907:

The total commerce of Madagascar for the first six months of this year amounted to $5,193,776, against $6,504,442 during the corresponding period of the year 1906, showing a decrease of $1,310,666. The imports during the six months were, $2,741,910 in 1907, and $4,128,282 in 1906, showing a decrease of $1,386,372, while the exports during the first six months of 1907 were $2,451,866, against $2,376,160 for the corresponding period of the year 1906, showing an increase of $75,706. The importation of cotton fabrics for the first six months of 1907 shows a comparative decrease of $370,813; flour, a decrease of $18,786; ironmongery, $76,206; leather articles, $12,316; and metals, $12,331. The exports of cattle show an increase of $22,047 for the first six months of 1907 over the same period for 1906; hides an increase of $117,657, and straw hats $22,871.

The present price of rubber on the local market is 3.5 to 7 francs (franc = 19.3 cents) per kilo (2.2 pounds), raffia, 33 to 36 francs per 100 kilos; hides, 95 francs per 100 kilos, and beeswax, 2.75 francs per kilo, while on the European market the price of rubber is from 4 to 9 francs per kilo; raffia, 55 to 60 francs per 100 kilos; hides, 90 to 100 francs per kilos, and beeswax, 1.60 to 1.75 francs per half kilo. It is feared that the existence of bubonic plague on the western coast of Madagascar will seriously affect the total export figures at the end of the year, and it is likely that the exports will show a decrease.

[A list of the principal exporters in Madagascar whom the consul states are not controlled by the European markets is on file in the Bureau of Manufactures.]

CHINA.

OPPORTUNITIES FOR AMERICAN GOODS.

HOW TO INCREASE PRESENT SALES—MARKET FOR NEW ARTICLES.

Vice-Consul Ernest Vollmer, of Tsingtau, states that there is a variety of American goods, most of which are to be found on the market in China, which should receive more careful attention by the home manufacturers in order to increase our foreign trade. Some of the articles are mentioned by Mr. Vollmer, as follows:

With the general rise in the price of building material the East naturally does not remain unaffected, and everything used in construction work is constantly getting higher. German manufacturers of roofing material are already advertising and securing agents here, and a few warehouses and other buildings have been covered with their material. If manufacturers of American roofing materials are figuring on extending their trade to the Orient, they will find no better time than the present to go after the business.

Sales of American lumber are undoubtedly greatly declining. When Tsingtau started a few years ago, many Pacific coast cargoes came here, but there have been no ships in for a long while, and the stock on hand is large. The cause is probably the high price, for while the better quality of our lumber is well recognized most of the building at present is being done by natives, and they prefer the Japanese wood mainly because it is cheaper.

Cash registers made in the United States are to be found in many of the larger business houses, clubs, and hotels, and there seems no reasonable doubt that many more could be placed here if the manufacturers would make as systematic a campaign for their sale as they do at home. The same may be said of adding machines, of which there are none in Tsingtau as yet. Chinese clerks could learn very quickly to operate these machines, and they should surely be able to compete with the old "abacus" in banks and the larger business houses. In office appliances, such as filing cabinets, letter trays, manifolding devices, paper clips, and the dozens of little conveniences now to be had everywhere, a German firm has an absolute monopoly in Tsingtau. There are any number of American companies making a large enough variety of these articles to pay them to send a representative to the Orient and thus secure at least a share of the trade.

BRASS BEDS, CAMERA SUPPLIES, PHONOGRAPHS, AND RAZORS.

Comparing prices locally with those in America there appears to be a good chance for American-made brass beds to sell here. If made for this country, they must have a high framework on which to put a mosquito net in summer. This framework is usually made so as to screw into the tops of the posts, into the place ordinarily occupied by decorative brass knobs.

There is a general demand for kodak and camera plates and films to be used in American-made apparatus. Such articles on sale here are generally so old that where the date of their manufacture is stamped on the outside they are not taken, and where this date has been destroyed they usually give poor or no results. This naturally tends to dampen the enthusiasm with which the superior American kodaks and cameras are used, and people incline more and more toward buying European rivals, for which it is easier to secure fresh plates or films. Another American article which seems popular is the phonograph, while disks and records are always in demand. A systematic canvass would undoubtedly greatly increase the sale of these articles.

Safety razors command a ready sale, their use constantly increasing. One drawback is the difficulty in obtaining extra blades, which rust so easily in this climate. In all the barber shops here there is not one up-to-date chair, a thing America could easily supply.

FOOTWEAR, SHIRTS, UMBRELLAS, AND FANCY CAKES.

American boots and shoes find general favor, but are not kept in stock in Tsingtau, a mail-order business being done with a few American firms. If some local dealer could be induced to take a stock and really try to sell them, the sales would be greatly increased. The Japanese make a fairly good tanned low shoe, but their black leathers, especially patent leathers, are very inferior and do not last. Shoe prices generally are such here that the usual foreign objection to American shoes, high cost, would hardly hold good.

Some weeks ago a local haberdashery displayed a lot of American negligée shirts in its show windows, which sold readily, owing to their superior style as compared with European rivals, and in all probability a new market for such goods has been established. Makers of parasols and umbrellas ought to find this a good market. The former can not be obtained at all in tasty styles. As umbrellas are in constant use, either for rain or sun, the demand is naturally enormous.

Fancy cakes and biscuits find a ready sale here, and any of the American goods packed air-tight in tins should be able to withstand the climate. Like many American goods, these biscuits are put up with nicer labels and more care is generally bestowed upon outside appearance than is the case with the goods from other countries, while the quality of the goods is certainly as good, if not superior, to the English or German article.

TEXTILE AND OTHER PURCHASES AT PORT OF TSINGTAU.

Increased imports of various lines of merchandise were shown at this port during the first half of 1907. Some of these, compared with the same period of 1906, were as follows, the figures representing pieces except where stated:

	1906.	1907.
Cotton goods:		
Shirtings, gray, plain	192,941	221,183
Sheetings—		
American	177,981	229,959
English	26,256	81,515
Indian	1,820	7,375
Japanese	5,280	18,000
Shirtings, white, plain	84,786	34,462
Drills—		
American	22,318	9,544
English	270	8,806
Japanese	720	1,800
Jeans—		
American	1,880	4,820
English	18,965	24,405
T-cloths—		
32 inches	255,674	215,292
32 inches, Japanese	82,630	80,000
Chintzes and plain cotton prints	2,580	18,606
Lawns, white	6,638	16,044
Printed drills, furnitures, and twills	8,104	5,740
Printed T-cloths	54,917	51,317
Cotton Italians, plain	83,720	103,580
Cotton goods:		
Cotton—		
Lastings, plain	3,226	5,770
Italians, figured	15,553	26,026
Lastings, figured	78,532	58,267
Dyed Turkey red—		
Cambrics	5,400	9,010
Shirtings	21,657	20,564
Cotton yarn—		
English ......piculs [a]	300	510
Indian ......do	18,626	49,694
Japanese ......do	63,918	56,412
Chinese cotton goods:		
Sheetings, Shanghai	....	7,800
Cotton yarn, Shanghai, piculs	1,220	18,981
Gunny bags	14,809	111,800
Aniline dyes, value in taels [b]	68,052	94,102
Mining material, value in taels [b]	206,316	206,082
Kerosene:		
American ......gallons	590,917	1,371,878
Russian ......do	73,700	....
Sumatra ......do	205,090	994,950

[a] Picul, 133⅓ pounds.

[b] Customs tael, 80 cents.

ENLARGED MARKET IN MANCHURIA.

DEVELOPMENT OF COUNTRY SHOULD CREATE DEMANDS.

Vice-Consul-General Charles J. Arnell, of Mukden, writes as follows concerning American trade opportunities in central Manchuria:

In addition to piece goods and petroleum, which have for a number of years enjoyed an extensive demand in central Manchuria, this region should, before long, furnish a market for various other American products. The construction of railways, which is sure to be undertaken, should create a demand for rolling stock; the expansion of steamer traffic on the Sungari and Nonni rivers should afford a market for marine engines and other boat supplies; the opening of mines should supply a new field for the sale of machinery used in connection therewith, and the installation of electric light and car systems, which is certain to be concomitant with the approaching era of progress and improvement, should provide a new outlet for trade in electrical equipment.

BRITISH INDIA.

PROVINCIAL TRADE RETURNS.

TRADE BY LAND OF THE PUNJAB WITH NEIGHBORING COUNTRIES.

Consul-General W. H. Michael, of Calcutta, furnishes the following article on late features of British India's commerce:

The Government report on the land trade of the Punjab for the triennial period ended in 1907 shaws that Kashmir is the most important of the four neighboring countries she does business with, its trade being 96 per cent of the whole. Only Kashmir and Ladakh increased their trade during the period named. The total amount of exports from the Punjab to these countries and Afghanistan and Chinese Tibet in the fiscal year 1907 amounted to $3,066,666, and the imports for the same year amounted to $5,700,000. For the triennial period the value of the exports was $8,300,000, and the value of the imports $10,466,666.

Since Afghanistan has begun to manufacture leather goods and other articles of manufacture under the encouragement of the Amir the trade with that country will continue to fall off, small as it has been. Chinese Tibet's trade was only six-tenths of 1 per cent of the whole, and that is likely to diminish under operation of the new treaty.

The report says that Kashmir practically monopolizes the land trade of the Punjab. The exports of Kashmir increased from $2,266,666 in 1905 and $2,766,666 in 1906 to $2,966,666 in 1907. The imports increased from $3,266,666 in 1905 and $4,200,000 in 1906 to $5,466,666 in 1907. The principal exports are cotton piece goods, iron, salt, sugar, and tea, and the principal imported merchandise charas, fruits, hides, skins, ghi, raw silk, stone and marble, and timber. In Kashmir the Swadeshi movement does not seem to have deterred the people from increased consumption of European cloth and refined sugar, and the exports of these articles continue to increase. Under imports the trade in raw silk, the product of the Kashmir filatures—patoo clothing, which is increasing in popularity in the Punjab—and ghi is increasing largely. In the trade with Ladakh the principal imports are charas, raw silk, raw wool, and manufactured woolen goods, while the chief exports are coral, European piece goods, Indian tea, and manufactured leather.

TRADE OF CHITTAGONG—REVENUE OF INDIA.

According to the Government report just issued, the trade by water of Chittagong, situated in southern Assam, on the Sandip Channel, at the delta of the Ganges, and the southern terminus of a system of railways running northward into Assam and eastern Bengal, during the fiscal year 1907 was $14,804,798, distributed as follows: Value of imports, $1,288,525; value of exports, $13,007,511; by coasting steamers, $508,762.

The imports consisted of railway material, iron, tin, and machinery, amounting to $700,000; cotton piece goods, $133,333; tea chests, $122,333, and salt, $103,333. No other one item amounted to $33,000. The exports were jute, $7,733,333; tea, $5,238,666, and some other commodities of small value. The customs revenue amounted to $372,928.

During the five months from April 1 to September 1, 1907, the revenues of India amounted to $100,895,333, which were derived as follows:

Land revenue	$34,310,666	Provincial rates	$4,126,000
Salt revenue	7,766,000	Customs	9,601,000
Stamps revenue	9,165,000	Assessed taxes	2,676,666
Excise revenue	12,788,333	Forest revenue	2,458,000

The opium revenue stands thus: Receipts, $11,316,333; expenditures, $6,597,666.

The revenues for this period of 1907 are in excess of the revenues for the same period of the previous year by $3,106,667, which is interpreted as meaning progressive prosperity for India.

DUTCH EAST INDIES.

AMERICAN AND AUSTRALIAN IMPORTS.

COMPETITIVE MARKET CONDITIONS FOR VARIOUS MERCANTILE LINES.

Consul B. S. Rairden, of Batavia, supplies the following commercial information concerning the Dutch possessions in the East Indies, and particularly the island of Java:

The colony of Netherlands India had a total population of 35,619,432 at the close of December, 1900, consisting of 76,033 Europeans, 537,316 Chinese, 27,399 Arabs, 16,650 other Orientals, and 34,962,034 natives.

Java and Madura alone had a total population of 28,747,028, consisting of 62,477 Europeans, 277,265 Chinese, 18,051 Arabs, 3,114 other Orientals, and 28,386,121 natives. At the close of 1905 there were 11,398,660 acres of land under cultivation in Java, of which 7,521,675 acres mostly under rice cultivation were farmed by the natives. Taking the European population of Java, it is safe to estimate fully 80 per cent as Eurasians, known here as Indo-Europeans. These Indo-Europeans, like the natives, are not consumers of meat, and prefer rice and fish, which are also much cheaper than meat.

Common beefsteak and roast meat sells at 24 to 50 cents per pound. The meat supply, which is quite sufficient to meet the demand, comes principally from the island of Madura. Sickness among the cattle is almost unknown, owing to the excellent veterinary system prevailing here. Unfortunately for the Australian colonies, this government some years ago put almost an embargo on Australian cattle by making the regulations controlling imports from Australia so severe that the business fell off considerably. While the year 1900 showed the value of cattle imported from Australia to be about $20,000, the year 1905 showed only about $13,000. The value of horses alone imported in 1905 was $22,840.

Imports of Australian flour into Java for the year 1905 amounted to 22,968,875 pounds, valued at $584,660. The total imports of flour were valued at $894,280, those from America being only $42,130.

Australian butter is in favor in Java, although the packing is not considered good for the Tropics. Imports of this article into Java for 1905 amounted to 538,560 pounds, valued at $146,880. This colony also imported $471,343 worth of butter from Holland in 1905, $114,950 from Italy, and $3,742 from Denmark.

Imports of chemicals and manures from Australia in 1905 were valued at $51,204. Of the $178,242 worth of leather and leather goods imported by Java, the imports of the American article were $2,989, against $4,245 in 1904. The total value of canned goods imported in 1905 was $7,334,280, American imports under this heading showing $48,030 and the Australian article about $198,580.

The figures for this report were taken from government statistics. When it is known that Australian goods can be put on this market in from two to three weeks, while it takes at least six weeks to land those from the United States, giving the former a great advantage, it is not at all surprising that the Australians can secure this market for certain goods. Another great advantage the Australians have over their competitors is that their goods arrive here in perfect condition and at small cost, while American goods often arrive in bad condition and at heavy expense. However, one objection to the Australian canned goods and other preserved articles of food is bad packing. When this can be improved, so that their goods are suitable for the Tropics, no doubt their business with Java will increase greatly. Bad packing of American goods has also done our trade with Java much harm in the past.

NEW CALEDONIA.

FOREIGN TRADE OF THE COLONY.

STEADY DECLINE SHOWN IN BOTH IMPORTS AND EXPORTS.

Consular Clerk Milton B. Kirk, of Paris, supplies the following statistics of the commerce of New Caledonia for 1906, just published by the French Government:

The total commerce of the colony amounted to $3,787,018, a decrease of $419,809 as compared with 1905 and a loss of $784,005 as compared with the average for the past fifteen years. The imports were $2,009,558 and the exports $1,777,460, the former being $60,686 and the latter $359,123 less than for 1905. Of the imports, France and her colonies supplied $1,184,786 and all other countries $824,772. Included in this latter were $62,223 from the United States. Of the exports, France and her colonies took $515,280 and all other countries $1,262,180.

TEXTILES.

THE SILK INDUSTRY.

ITALY.

A GOVERNMENT COMMISSION APPOINTED FOR ITS IMPROVEMENT.

Consul James. E. Dunning, of Milan, makes the following review of the results of the recent visit to that city, which is the center of the Italian silk industry, of the Government commission appointed to study its conditions and report thereon:

For several years there have been recognized unfavorable conditions in the silk industry, such as disorganization among the traders, unsatisfactory labor arrangements, lack of a special disbursing market, or "silk bourse," in which the trade could unite for mutual benefit, inadequate tariff provisions, and absence of any systematized study of mulberry and silkworm culture. There are many variations of these items more or less closely related to the main heads. Internal differences among classes of manufacturers have played their part. Varying opinions have been expressed upon all of the central questions facing the trade.

Probably it is true that back of all the apparent effort to raise the general condition of the industry there has been a desire to create a larger degree of harmony among the manufacturing and trading groups engaged in the business and to formulate some basis of union on which all could stand. To effect some such result the Government, early in 1907, named a special commission to handle the matter, and it visited Milan during the second week of October. The entire trade was represented, the floor being free to any and all comers, and the arguments covered every phase of the case.

The opening of the conference was devoted to the actual condition in Italy at the present time. Attention was called to the original advantages which led to the creation of the industry, to the lands specially adapted to mulberry cultivation, to the climate particularly suited to the treatment of cocoons, to the adaptability of the home market to the handling of such a business, and to the supply and character of hand labor necessary for its support.

THE WORLD'S RAW SILK PRODUCTION.

The following table, showing the world's average annual production of raw silk from 1880 to 1890, as compared with the production for 1906, was placed before the conference by way of illustration:

Where produced.	1880–1890, average per year.	1906.
	Pounds.	*Pounds.*
Italy	9,240,000	13,200,000
Other European countries	2,200,000	2,200,000
Asia Minor and Central Asia	660,000	8,080,000
Extreme Orient	13,200,000	26,400,000
Total	25,300,000	44,880,000

These figures show that Italy's share in the total production of the world's raw silk has fallen from more than 36 per cent to a little over 29 per cent, and even to maintain this position she has to import more than 10,000,000 pounds of foreign cocoons a year (which was the case in 1906); thus not more than 22 per cent of the world's supply is reeled from Italian cocoons. While Italy remains one of the four great exporters of raw silk, it has become painfully apparent to the home trade that it is too dependent on foreign importations of raw material, and consequently upon foreign market conditions.

Long prior to the demand for this conference the Italian reelers and spinners were alive to their too great dependence on foreign markets and to the need of a change of front at home. Everything that could be done by way of modifying machinery to reduce the cost of production was long ago accomplished. Within recent years there has further arisen the very clear prospect that the Levant, which is becoming an important producer of silkworms, will presently take to reeling raw silk on its own account and thus enter the field as a serious competitor to Italy.

SCARCITY OF ITALIAN LABOR.

Another interesting disadvantage to the Italian industry, which had in its earlier years profited greatly by the low cost of home hand labor, has come from the comparatively recent action of the Government in securing child-labor legislation. Such laws have vastly increased the cost of production as well as reduced the supply of labor. Emigration has had the same effect. A third equally interesting disadvantage to the industry has arisen from the general development of manufacturing enterprises throughout the very regions in which the silk trade was naturally placed.

Milan, formerly known only as the center of the raw-silk market of Italy, has become the heart of a new northern industrial commonwealth in which hundreds of varying factories are giving employment to more hands than the country can produce. In a sense, the Italian silk industry has thus found its sharpest competitor, at least upon the side of labor and the price paid thereto, within its own territory. In the last few years it has become more and more difficult to get men and women, who could secure more attractive employment in the innumerable factories surrounding Milan, to engage in the cultivation of the mulberry tree and the care of the silkworm, while there has been extreme danger that there would be an almost total loss of the specially trained female labor which has been employed in the difficult work of unreeling the raw cocoons. This work, though greatly facilitated by the use of machinery, is essentially hand labor, and involves keeping the fingers constantly in almost boiling water. It has been easy for the cotton mills to offer superior attractions to these women, or to raise the scale of wages to a point which the silk reelers could not afford to meet.

LACK OF CAPITAL—INDUSTRIAL AND TARIFF QUESTIONS.

A factor no less potent than these direct conditions has been such large demands upon capital to engage in the development of other industries. Thus the silk trade has in the past few years been not a little embarrassed in financing its more extended operations.

The industry has, in spite of the great hold which it has gained upon foreign markets and the reputation which it has made for the quality of its output, come to a point where general reorganization is necessary to meet and overcome the difficulties which confront it.

Proposed legislation with reference to the social and economic status of the workers is intended to meet those new conditions which have developed in Italy since the dawn of the latter-day industrial era in the northern provinces. The old day, when labor was plentiful, cheap, eager, and unexacting, has passed. Labor is not only inspired with ambition for its own betterment, but is thoroughly organized for the advancement of its demands. The silk industry no longer offers an inviting opportunity for farm-bred workers, who can now take their choice of a score of great trades in which to engage, and of a rapidly rising scale of wages which is becoming more and more profitably related to the new cost of living. It is felt that the silk industry, however, since it exists primarily on the soil and is for that reason in a place of intimate connection with the national life not enjoyed by any other business, should have certain preferential laws for its protection and benefit. Such legislation as has been suggested before the conference has been very general in character—for the establishment of schools of instruction, for banking facilities, for transportation preferences, and for a more even imposition of taxes, which are held by the members of the trade to be unjustly heavy under laws which might be easily interpreted in such a way as to render them much less burdensome.

The conference brought out every variety of argument upon the various propositions and suggestions for the betterment of the industry. The industry was largely represented, and each branch of the business was given a hearing through numbers of its representative members. Naturally nothing conclusive could be arrived at in an assembly of this nature, but it is certain that the Government commissioners went away with full information upon the situation, and that they will be able to bring the true attitude of the trade before the authorities during the coming winter.

Much time was given to a consideration of customs tariffs of a protective nature, to the conditions surrounding the manufacture of artificial silk, and to the relations between various sections of the home trade, such as those of the manufacturers to the spinners of silk waste, and similar problems. There is some friction on this latter point, the association of the important manufacturers having already shown a tendency to raise the price of silk waste, to the disadvantage of the factories which are spinning that by-product into schappe for export. One of the issues between these members of the trade is the threat of the schappe spinners to purchase their silk waste in the foreign markets.

MULBERRY AND SILKWORM CULTURE—RESULTS OF CONFERENCE.

Toward the end of the conference opportunity was afforded for the discussion of questions relating to the cultivation of the mulberry and the breeding of silkworms, and there were reports and addresses from important experts in these branches from all over the field. Great emphasis was laid on the success reported to have attended Japanese procedure in the agricultural phase of the industry. The most valuable contribution was from Professor Clerici, the head of the Milan bacteriological observatory, who declared that the Italian cultivators might profitably copy the Japanese method, and whose remarks were regarded as striking the keynote of the conference upon this aspect of the case. He referred to the greatly developed irrigation system in Italy as one means for increasing the volume and quality of the silk-supply crops. Other details of this part of the conference related to sundry variations of the argument, all looking toward the betterment of conditions.

One of the most useful addresses was made at the close of the conference by Commendatore Giuseppe Janni, director-general of the Italian Colonial Society at Milan, who spoke of the need of improved methods for shipping raw silk from Persia and Turkestan into Italy, for more direct steamship lines and connections, for systems of insurance on both land and water transportation, for credit systems mutually advantageous, and for the demand for international treaties covering the subject.

It is expected that the report of the commission, after being laid before the Government, will produce some definite results tending to the reestablishment of the industry on the broader lines demanded by the times. At all events, it is felt at Milan that the conference was of extreme value in that it brought together the differing elements of the trade on common ground, where the statement of their needs and grievances could be made to mutual advantage.

FRANCE.

GREAT ACTIVITY OF SILK TEXTILE WORKERS IN LYON.

Consul J. C. Covert reports that the silk industry was established in Lyon about the year 1480, and the city has since strengthened and held its preeminence in this industry on account of the indefatigable industry of the people and their artistic taste. The atmosphere and climate have had nothing to do with it. The consul continues:

The artistic genius of the French people has been very effective in holding the business. The French excel in inventing fine designs for fancy silks. Artists are numerous in every city in France. There are many means in this country of encouraging the latent artistic taste in the people. If a poor boy in the country or in a small village has any talent for art, some one finds him out and encourages him. The township or commune where he lives sends him, at public expense, to the nearest city where there is an art school, and there his talent is developed by good teachers. He soon learns that he can add materially to his means of living by inventing a fine design for a silk pattern.

Many accomplished artists in Lyon devote considerable of their time to making designs for silk. They know that if they can not find a purchaser for a masterpiece of painting they can always sell to some silk manufacturer an entirely new and artistic pattern for silk. This is one great reason why Lyon holds the first place in the production of fancy silks and why she will probably always hold that place. A thorough education in the science of colors is indispensable in the production of fine designs for silk. A piece of tapestry woven by Lyonese weavers a few years ago contained 200 distinct colors, tints, shades, and tones, sprinkled over branches and among flowers, buds, and leaves. The design was the work of one of the greatest artists of France.

There was a time when the stealing of designs from each other among manufacturers gave rise to a great deal of trouble. The frequent change of fashion in modern times has done away with that annoyance. When a fine design is put upon the market to-day it is superseded by a new fashion before a manufacturer has a chance to steal it.

WARP PRINTING—HAND LOOMS DISAPPEARING.

Satins, velvets, and silks are printed on the warp in the same manner that an artistic job printer employs for a multicolored card or bill, each shade requiring a distinct impression, and some as many as 60 different impressions, the nuances or shades being so finely drawn that it requires an expert eye and a close examination to distinguish them. After the warp is printed the woof is formed by skilled weavers, using from two to eight shuttles, each shuttle carrying a different colored thread. After the printing and the shuttle work raised or embossed work is added by deft fingers.

Hand work is rapidly giving way to power looms, especially in the plainer fabrics. The latter can do from three to four times as much work as the former if producing light stuffs. The manufacture of velvets by power looms was commenced about thirty years ago, and they have now pretty generally taken the place of hand looms. The number of hand looms in use in Lyon December 31, 1889, it is stated, was 17,294. On December 31, 1899, the number had fallen to 8,637. Between the same dates the number of power looms increased from 200 to 2,383. Thus, 8,657 hand looms had disappeared in ten years. The number of persons employed in the silk business in Lyon is 70,000 to 75,000.

The output of the silk weavers of Lyon and the district shows a slight annual increase ranging from 379,000,000 francs (franc=19.3 cents) in 1894 to 426,600,000 francs in 1906.

From 200 to 300 boys and girls are constantly in attendance at the two silk schools in Lyon, where they learn all the secrets of silk making, from breeding the silkworm to the designing of fine patterns and weaving the silk. Upon the Croix-Rousse hilltop, where one of the schools is situated, there are not fewer than 30,000 men, women, and children engaged in weaving the silk. The pupils go from the school into the rooms where they see silk making carried on and they often engage in the practical work, besides weaving silk several hours per day in the schools.

LOOMS IN THEIR HOMES.

Nearly all the 30,000 people employed in the silk weaving on the Croix-Rousse have their looms in their homes, and all the work is done in the family. The children are born and reared in a silk center, almost acquiring a practical knowledge of the industry during their infancy. As soon as they are old enough to study they attend the free silk school, where they are taught the theory.

In the manufacture of cheaper goods, moussellines, and soft fleecy silks, Lyon maintains her rank on account of the industry of the French people. At a distance of a hundred miles around Lyon one or more looms are found in almost every farmhouse. The farmer, his wife, or children will work on the loom in the winter, and in the summer when the weather prevents outdoor work.

Fine hand-made velvet is generally made in farm houses. Since this article is so generally made by steam looms, the city weavers have taken to weaving lighter fabrics, in which their gains are higher and work steadier. In the country the farmer or his wife or children will work on a velvet loom when the weather prevents any work at all out of doors, and what they earn in the house is clear gain.

While other countries are making progress in the production of silk and constantly competing for a larger place in supplying the world's consumption of silk, France continues to hold the first place in the world as a silk producer, and the great center of her silk industry is in Lyon. Notwithstanding the active competition of other countries, the output of the French silk looms increases every year.

RIBBON WEAVING.

HOW THEIR MANUFACTURE IS CONDUCTED AT ST. ETIENNE.

Consul W. H. Hunt, of St. Etienne, in response to an American request, has prepared the following article on the manufacture of ribbons at that French city:

The production of ribbons at St. Etienne amounted in 1906 to $19,000,000, being an increase of $3,000,000 over the previous year. Exportation was somewhat over $6,000,000, or an increase of $2,000,000 as compared with 1905. Ribbons are exported from St. Etienne more or less over the world, but the countries which are the largest purchasers are England, Germany, United States, Canada, Argentine Republic, China, Italy, and Spain.

The present number of looms in St. Etienne and the vicinity is estimated at 30,559, that of spindles, 311,866, and the total number of men, women, and children employed in the industry is estimated at 75,000. The number of ribbon manufactories is about 170, but they are not all confined to the city, a large number being scattered through the small towns of the Departments of the Loire, Haute Loire, and the Isere.

Within the last few years electric motor power has been distributed not only to the large ribbon factories of the region, but also to every weaver who works at home. Hitherto the weavers, who generally possess from two to three looms, did all the work by hand, but now handmade ribbons may be considered a thing of the past. The output has consequently increased, and the wages are a little better than some years ago.

THE WEAVERS AT HOME.

The weavers as a class are sober and intelligent men, living frugal lives, and seem totally absorbed in their trade. A large number are not only proprietors of their looms, but also of their houses, and it may be said that many quarters of this city were built by them. A model weaver's home consists of three rooms (all the working people live in tenement houses), one long and large enough to contain three looms, two family rooms, of which one is the kitchen, eating, and bedroom combined; the other is the bedroom of the parents and contains the best household furniture.

The homes are always clean and neat, presenting frequently a contrast with those of workmen of other trades. Their diet consists of soup, morning and evening, made of a curious mixture of bread, potatoes, and cabbage, to which a slice of bacon is added to give it a flavor. The dinner is composed of meat, vegetables, cheese, coffee, and a quart of red wine, while the supper is made up of soup, the remainder of the dinner, and the usual bottle of wine. As will be seen, the French weaver lives fairly well, but without any extravagance. He seeks no pleasure beyond a walk in the country on Sunday or an occasional visit to the theater.

WAGES AND HERITAGE OF THE WEAVERS.

The earnings of a weaver are difficult to calculate, but $1.35 per day may be considered as an average for the year round. At some seasons he will earn as much as $2 to $3 a day, while at others he will not make more than 60 cents, or his looms may lie idle for a few days. In the factories the work is more regular, but frequently short time is imposed for obvious reasons. The ribbon industry, depending entirely on the caprice of fashion, is subject to constant fluctuation.

The prominence given to St. Etienne in the production of ribbons is due to two factors, one of which is the nature of its water, which, free from any mineral substance, is chemically pure and is ideal for dyeing purposes. It is thus that the most delicate shades or tints can be produced to almost perfection. The number of dyeing establishments in the city is 21, and those houses not only supply the local needs, but execute large orders from Lyon and elsewhere. The second reason is that of the well-known special aptitudes of the weavers. The weaver of St. Etienne is by nature an artist in his trade. Handed down from father to son, all the secrets of the industry, the delicate manipulation of the threads on the looms and the varied combinations of the design to obtain the most artistic effects, are, and will remain, the distinctive and attractive features of the St. Etienne ribbon industry.

St. Etienne, with its 150,000 inhabitants, possesses other industries which, although less known perhaps than ribbon making, yet are sufficiently important to give employment to thousands of workmen and contribute materially to the prosperity of the city. Among these may be mentioned coal mines, iron and steel foundries, gun making, hardware of various kinds, bicycles, etc.

LACES AND EMBROIDERIES.

SWITZERLAND.

IMPORTANCE OF THE INDUSTRY—TRADE WITH THE UNITED STATES.

In reply to inquiries from a correspondent, Consul-General S. C. McFarland, of St. Gall, furnishes the following information concerning the embroidery industry of that Swiss district, its great dependence on American consumption, and the development of the embroidery industry in the United States:

St. Gall is the clearing house of a large manufacturing district embracing some four Cantons. The actual producing processes are carried on in numerous and small towns, in villages, and almost universally in the homes of the inhabitants. The highest in altitude of any community in the civilized world, its surrounding hills practically capable of producing grass only, its people in the last century were impelled to creative industry, and were assisted by its location on the old route between Italy, Canton Grisons, and south Germany. At first all attention was given to flax products, and the looms to be found in almost every house soon gave it a local reputation in linens.

The introduction of cotton rapidly changed all this, and the house workers in flax developed into expert producers of handmade laces and embroideries, for which the district of Appenzell is still famous. The Rittmayer embroidery machine was invented near St. Gall about 1830, but it was not until 1886 that the first half dozen machines were in operation to compete with hand machines. The growth was then rapid, new improvements being added by various manufacturers, until the number now in operation in the embroidery district—the Cantons of St. Gall, Appenzell, Thurgau, Zurich, and of the Vorarlberg, for which St. Gall is the market and clearing house—is approximately 6,000. These are all immense new machines, whose use dates back not further than 1894, machines in prior use having been necessarily relegated to the scrap heap. Of hand machines, which have not materially changed in character, there are some 16,000 in operation, according to Mr. Karl Kaufmann, the American treasury agent at St. Gall.

DEVELOPMENT OF AMERICAN AND SWISS EMBROIDERY INDUSTRIES.

It is here interesting to summarize the American embroidery development. From 1890 to 1906 the number of embroidery plants established in the United States and the number of machines therein were as follows:

State.	Establishments.	Machines.	State.	Establishments.	Machines.
New York	62	291	Missouri	1	4
New Jersey	60	233	Illinois	4	19
Pennsylvania	11	29	California	1	1
Connecticut	3	36			
Maryland	1	3	Total	143	616

Including four machines sent to Canada, Switzerland furnished 259 of these machines and Saxony 361, a total of 620.

The exportation of Swiss machines to the United States still continues; but manufacture there can reach development only through trials identical to those experienced at St. Gall. The low wage rates here laid the foundation of the industry; and with it, aided by abundance of pure water, grew up the accessories of bleaching, dyeing, finishing, machine and tool production, and the almost numberless subindustries whose very existence is dependent upon the mother industry. The blending of community interests in practically one product—such as, for instance, embroideries at St. Gall; silk cloth at Zurich; silk ribbons at Basle; gold watches at Geneva; common watches, in all possible grades, at Neuchatel and Solothurn; locomotive and heavy machinery at Winterthur; electrical machinery at Oerlikon and Baden; embroidery machinery at Arbon; knitted goods in Aargau, and chocolate and cheese in their specific cantons—may not be the wisest economic procedure. Diversification may offer the advantage of modifying the disasters of inevitable hard times in one industry, but the application in one line of all thought and all effort, generation after generation, results in a rare perfection and economy of product. This is the chief secret of St. Gall embroideries.

LABOR, WAGES, AND EXPORTS.

Mr. Kaufmann places the number of office embroidery employees—designers, enlargers, and clerks—at 7,000 in St. Gall, and of direct embroidery work people of both sexes in the district at 80,000. In allied industries, outside of dairy and purely mercantile pursuits, may be aligned almost the entire balance of the population. Factory wages, small from an American standpoint, are perhaps the highest in Europe, as is also the standard of living. Foremen receive from $1.20 to $1.80 a day, expert stitchers from 90 cents to $1.90, ironers from 90 cents to $1, and less expert workers down to 60 cents. Salaries of managing experts are large, even from an American salary standpoint. Three-fourths of the factory and house workers are females.

The number of manufacturers and exporters having warehouses or headquarters in St. Gall is about 250, and the total value of exports of embroideries and laces alone from the district in 1906 was $30,593,474, distributed as follows:

Whither exported.	Value.	Whither exported.	Value.
United States	$14,877,148	Canada	$857,465
Great Britain	6,279,184	Central America	612,548
Germany	2,348,628	Argentina	707,745
France	1,667,218	Australia	220,586
Italy	634,680	Holland	208,786
Belgium	501,574	British India—Asia	484,056
Spain	568,840		
Austria	625,021	Total	30,593,474

The largest single St. Gall concern exports annually about $2,000,000, chiefly to the United States, while several fall only a small sum below this. The average concern, however, exports about $200,000. There are many engaged in business on a small scale—collectors of house-industry products—whose aggregates run only from $2,000 to $10,000.

GREAT INCREASE IN EXPORTS TO THE UNITED STATES.

The exports of laces and embroideries to the United States given in the foregoing general statement throw some light on that St. Gall industry, but nothing illuminates it like the record of total exports to the United States for specific years since 1864, as follows: 1864, $67,989; 1870, $1,343,744; 1880, $4,351,995; 1890, $7,247,952; 1900, $7,389,924; 1906, $15,981,168.

The following statement shows the value of declared exports from the consular district of St. Gall to the United States during the three months ended September 30, 1907:

Article.	Value.	Article.	Value.
Appenzell goods, hand embroideries	$3,365	Job of handkerchiefs	$13,805
Bolting cloth, silk	26,108	Kilo embroideries (imperfections):	
Cheese	97,183	Hand machine	12,929
Chocolate	2,893	Schiffli machine	29,962
Church articles	4,287	Machines and parts thereof	11,741
Cotton embroideries:		Plain cotton cloth:	
Hand machine	784,982	Muslin, nainsook, etc	28,569
Schiffli machine	1,873,695	Typewriting cloth	10,008
Cotton laces and trimmings:		Ribbons	1,176
Hand machine	35,027	Silk laces and trimmings:	
Schiffli machine	173,272	Hand machine	91,687
Collars, blouses, robes, ties, and other embroidered cotton fancy articles	102,204	Schiffli machine	21,226
Curtains	300,342	Tidies, pillow shams, scarfs, and other tamboured articles, except curtains	41,230
Figured and dotted Swisses:		Yarn	25,758
Woven	32,167	Miscellaneous articles	16,525
Embroidered	9,939		
Gegauf, tucks, and other sewed articles	4,691	Total	4,112,758
Handkerchiefs	271,947	Total same period in 1906	3,919,768
Job of hand-machine embroideries	19,318	Increase	192,990
Job of Schiffli-machine embroideries	67,222		

UNITED KINGDOM.

PROMINENCE OF NOTTINGHAM IN THE MACHINE LACE INDUSTRY.

Consul F. W. Mahin states that the total annual value of Nottingham's lace output is about $25,000,000. The United States is the largest individual buyer, taking a quarter of the total. Germany, France, and the British colonies rank next, and every other country in the world takes some share of this British product. Concerning its manufacture the consul writes:

Nottingham is preeminent in the production of machine lace, for several reasons—first, the invention of the stocking frame in this county; second, the town was always noted for its mechanical skill, and a proverb runs that "The little smith of Nottingham can do the work no other man can;" third, the inventors and improvers of lace machinery were Nottingham men; fourth, the damp climate. Cotton-cloth making was first started in Nottingham, but was moved to Lancashire because the climate was not damp enough here, though right for lace making.

The machines now in use in the Nottingham lace industry are the Levers, lace curtain, plain net (all based on Heathcoat's invention, with Levers's improvements), and warp lace (an adaptation of the knitting machine). A German machine for making embroidered net and lace is used to a limited extent, and also the Barmen machine, of mixed German and French origin, producing a clever imitation of handmade lace. The product of the machine, being in a crude brown state, must be bleached and otherwise treated to render it fit for the consumer. These various processes closely followed in development the making of lace. Samuel Hall, of Nottingham, patented certain devices during several years, beginning with 1817, which are essentially those used to-day.

A GREAT NUMBER DEPENDENT ON THE INDUSTRY.

About 6,000 people are employed in the lace factories of Nottingham and immediate vicinity; in the bleaching and finishing processes, distinct from the factory work, probably 20,000 more are employed—the number being a variable quantity, dependent upon the state of the trade. The number directly dependent on the lace industry is estimated at 50,000, and the number indirectly dependent thereon is probably 125,000—half the town's population. At least 600 firms are engaged in the industry in this city, in making, finishing, or marketing lace. A few combine the three, most of them both finish and sell, while a comparative few deal in the finished article only. The number of firms weaving lace is 135. The annual output of the largest factory is worth about $1,000,000, and of an average factory about $250,000.

Many of the lace factories are in the city limits, but the present tendency is to place new ones in adjacent villages, where land and labor are cheaper. The finishing processes, however, are confined to the city, on account of the better facilities and because trade is expedited by bunching close together the firms engaged therein. As a rule, lace factories are not occupied by one firm alone, but are let somewhat like tenement houses. Thus, there may be one firm or more on each floor, or one firm may have two or three floors. The rent covers all tenement expenses except lighting and insurance. Wages of factory hands range from $4 to $20 a week, depending on the skill or knowledge required. Their mode of living is much like that of other working people, though they dress rather more smartly, owing perhaps to the influence of their artistic trade. To this influence is also possibly due the fact that lace makers are notable gardeners. Many of them rent plots in the city allotment gardens, where they pass much of their spare time in cultivating flowers, fruits, and vegetables. [The consul's historical details of the establishment of lace making in Nottingham are filed for public reference at the Bureau of Manufactures.]

CHEMNITZ KNIT GOODS.

METHODS OF OPERATION—EXTENSIVE AMERICAN PURCHASES.

Consul Thomas H. Norton states that for two centuries Chemnitz, with the adjacent region of Saxony and Thuringia, has been the center of the knit-goods industry of Germany, and it still maintains its position as the world's chief producer of gloves, hosiery, and knit underwear for foreign exportation, the chief rivals being the Nottingham district in England and the Troyes district in France. The consul continues:

The Chemnitz stocking weavers' guild had in 1755 members from 45 different villages. The wooden frames, as originally devised in the sixteenth century, were in use until fifty years ago. Since then the modern hosiery machinery with complicated rotary movements, the round frames, the ribbing machines, etc., have appeared and displaced the more primitive forms. The manufacture has been largely centralized in factories and home production is steadily disappearing. Chemnitz is the center of the industry. Here are the largest factories, and here are the merchants who conduct the wholesale trade with every part of the world. These merchants frequently supply yarn to the smaller establishments or families occupied in weaving and pay for the completed hosiery when delivered. They then have the wares dyed in the large dyeing establishments of the city, while the finishing and packing of the goods are performed in their own warehouses.

LARGE EXPORT TRADE.

The exportation of hosiery from Chemnitz to foreign countries, which began in 1820, has grown to large dimensions. Seventy American firms have resident agents at Chemnitz—frequently American citizens—purchasing and shipping hosiery, gloves, and other textiles. A score of other large firms in various countries have followed the example of the more enterprising Americans and also now have agents stationed at this center.

The total annual export of hosiery and other knit goods from this region amounts to over 12,000 tons and has a value of over $15,000,000. The proportions, by weight, of the product taken by different countries in 1905 was as follows, stated in percentage:

United States, 28.8; United Kingdom, 21.7; British India, 5.5; Netherlands, 3.6; Argentina, 3; Turkey, 4.5; Australia, 2.7; Chile, 2.7; Belgium, 1.9; Brazil, 1.9; Federated Malay States (British), 1.9; Uruguay, 1.8; Mexico, 1.6, and other countries, 18.4.

The value of the export of hosiery from the Chemnitz consular district to the United States in the fiscal year ended June 30, 1907, was for cotton hosiery, $7,098,967; silk hosiery, $232,900, and woolen hosiery, $50,749.

NUMBER AND PAY OF OPERATIVES.

Over 225,000 operatives are employed in the textile works of Saxony. The number of operatives engaged in the manufacture of textiles in and near Chemnitz is estimated at 70,000, divided among 1,522 factories. Of these, about two-thirds are engaged in the production of hosiery, gloves, and other knit goods. The largest hosiery company in Chemnitz employs 1,000 operatives in three different factories. There are several establishments employing from 500 to 600. The average hosiery factory carries from 100 to 200 on its pay roll. A factory of 100 operatives produces from 30,000 to 40,000 dozen pairs of hose per annum.

Female labor is largely utilized, male operatives comprising but 45 per cent of the total number of employees. The average annual wages of such operatives in the city of Chemnitz has been tabulated as follows:

Year.	Male.	Female.	Year.	Male.	Female.
1890	$283.50	$140.50	1899	$266.75	$140.50
1894	240.00	120.00	1906	293.50	165.00

The increase of wages for female labor has been more marked than that for males.

OTHER INDUSTRIES.

Chemnitz has a population of 265,000. It is often termed the "Saxon Manchester." Like its English prototype, it possesses a variety of industries. Its machine works number 90 and employ about 20,000 workmen. The products (locomotives, knitting machines, etc.) are valued at $15,000,000 per annum.

The various textile branches (spinning, weaving, and knitting) in the city employ about 10,000 operatives. The largest spinning mill has 117,000 spindles and employs 800 operatives.

The preeminence of this section of Saxony in the manufacture of hosiery is not due to climatic conditions or the possession of trade secrets. An exceptionally high degree of energy and intelligence was manifested by the men who, during the last century, built up the industry. Their enterprise has been aided by a farsighted public policy, not only in the city of Chemnitz, but also in the smaller neighboring towns, of establishing admirably equipped and well-conducted trade schools, affording fine opportunities for training the youth in all branches of textile manufacture.

COTTON AND PRODUCTS.

EGYPT.

A RECORD-BREAKING CROP FOR THE PAST SEASON.

Consul-General L. M. Iddings, of Cairo, in stating that it is always possible on October 1 to tell with reasonable accuracy what the cotton crop of Egypt is for the current agricultural year, gives the returns of this product as follows:

For 1906–7 the country has produced 6,936,121 cantars (1 cantar equals 99.05 pounds), or almost 693,612,100 pounds. This is the heaviest crop Egypt has ever had. Its value is £23,000,000 Egyptian, or $115,000,000. The area planted was 1,500,000 acres—in Lower Egypt 1,260,000 acres and in Upper Egypt 240,000 acres. At the export customs in Alexandria values are estimated at about 15 per cent less than they really are, so that the actual value of the cotton crop for 1906–7 is about $132,250,000; but, in general, reference is made to the figure given by the customs authorities. The cotton crops for the last five years in Egypt have been as follows:

Years.	Pounds.	Value.
1902–3	586,075,100	$73,928,720
1903–4	614,455,100	88,909,000
1904–5	637,612,700	75,029,800
1905–6	604,119,700	85,574,305
1906–7	693,612,100	[a]115,000,000

[a] Nearly.

The price of November cotton touched $18 the cantar in the Alexandria exchange on January 4 last. This is the lowest for the year. The highest price was $21.06 in July last. These are the prices of contracts (futures); but when the cotton was actually sold it was for from $2 to $4 per cantar of unginned cotton above the price of contracts, according to the quality of the cotton. The highest price paid for affifi cotton in 1907 up to October 29, was $20.15.

COTTON-SEED RESULTS.

The cotton seed received from the crop this year is 3,787,375 ardebs. The ardeb is invariably used in speaking of cotton seed. It equals 198 liters, or about 180 quarts—to be exact, 179.26 quarts—or 260 pounds avoirdupois, in speaking of wheat or cotton seed. To reduce it to pounds or to quarts is incongruous. A cantar of unginned cotton weighs about 315 pounds; 106 pounds are cotton, and the rest is cotton seed. For five years the product of cotton seed in Egypt has been as follows:

Years.	Weight (ardebs).	Value.
1902–3	2,973,825	$8,361,405
1903–4	2,976,057	7,823,565
1904–5	3,231,518	8,132,180
1905–6	3,244,264	8,788,580
1906–7	3,787,375	10,000,000

ITEMIZED COST OF PRODUCTION ON A WELL-CONDUCTED FARM.

The following shows in detail the cost in 1906 of raising the best kind of Egyptian cotton on a farm in the Delta, in the Santa district, Scharbieh Province:

The area of the farm is 643¾ feddans, or, allowing 1.03805 acres to the feddan, 668¼ acres; 207 feddans, or 214.87 acres, being devoted to cotton growing. It is a property managed with great care, intelligence, and on scientific principles; but it is considered an expensive farm. It produced 550 pounds of "Affifi" ginned cotton to the acre, and its cost per pound was about 7⅓ cents.

Labor on plantations in the Delta has more than doubled in cost in ten years. The laborers are principally from Upper Egypt, and as the area of fertile land in their own provinces increases they find more work nearer home and will not come north except for higher wages. This condition will be more marked when, as is probable within two years, all basin irrigation in Egypt has given way to perennial irrigation, and when, in 1912, the addition to the Assuan dam is finished. The expenditure for cotton culture on the plantation in question was:

	Total.	Average per feddan.		Total.	Average per feddan.
Wages for plowing (4 times)	$130.99	$0.63	Wages for weeding and hoeing (3 times)	$451.39	$2.18
Wages for harrowing and ridging	140.08	.68	Cost of picking crop (3,538 kantars seed cotton)	984.38	4.76
Cost of manure, and wages for spreading it	373.72	1.80	Filling cotton into sacks and transport to stores and factory	33.52	.16
Cost of seed	136.33	.67	Cutting down and stacking cotton plants	34.48	.17
Sowing, including resowing where first seeds did not germinate	110.62	.53	Wages of watchmen for guarding cotton plantation	124.39	.61
Cost of raising water by pumping from main canal, including cost of coal, etc., and wages of engine driver and stoker	533.84	2.58	Land tax on 207 feddans	1,679.88	8.11
Wages for distributing water in furrows (7 times)	172.06	.83	Total	4,905.18	23.71

The share of general expenses on the farm chargeable to cotton cultivation was:

	Total.	Average per feddan.		Total.	Average per feddan.
Cost of food of cattle, including wages of stablemen, farrier, etc	$1,261.33	$6.09	Amortization of value of 58 head of cattle	$430.04	$2.08
Wages of cartmen	215.29	1.04	Amortization of value of irrigation plant	197.71	.95
Cost of repairs of agricultural implements	176,14	.85	Petty expenses	28.52	.13
Cost of repairs to carts and harness	119.67	.58	Salaries of 2 overseers (1 for land and 1 for cattle)	516.22	2.50
Clearing water channels and repairs to roads, bridges, etc.	208.53	1.01	Salaries of 1 storekeeper and 2 clerks	374.95	1.80
Wages of 2 headmen in charge of gangs of laborers in the field	124.73	.61	Total share of general expenses on the farm chargeable to cotton cultivation	3,763.79	18.18
House rent	51.61	.25	Total actual expenditure (first table)	4,905.18	23.71
Wages of messengers and guardians of stables, stores, etc	59.05	.29			

The total cost therefore for cotton growing on 207 feddans, or 214.87 acres, was thus $8,669, which is $40.345 per acre. From each acre about 5.5 hundredweight were picked, so that the cost was $7.336

per 100 pounds, or 7⅓ cents per pound. The value of the crop was $24,329, or $113.27 per acre. The receipts from ginned cotton were $21,163, from cotton seed $2,948, and from cotton stalks $417.

UNITED STATES.

IMPORTS AND EXPORTS OF MANUFACTURES—FANCY GOODS ACTIVITY.

A recently issued bulletin from the Bureau of Statistics gives the value of the imports of cotton manufactures into the United States during the first nine months of the calendar years 1904, 1905, 1906, and 1907 at $35,000,000, $39,000,000, $51,000,000, and $59,000,000, respectively, and states that should the remaining three months of the calendar year 1907 average as high as in the nine recorded the total will approximate $80,000,000. It seems almost certain to exceed $75,000,000, exceeding by several millions the former high-record total. Thus the United States ranks third among the nations in imports of cotton manufactures, being exceeded by India and China, with imports of $133,000,000 and $125,000,000, respectively, for 1906, the Chinese imports being nearly one-half cotton yarn.

The exports of American cotton manufactures in 1906, the high-record year, was about $53,000,000, against $78,000,000 from France, $118,000,000 from Germany, and $500,000,000 from the United Kingdom in the latest available year. In the nine months ended September 30, 1907, the value of cotton goods exported from the United States was little more than one-third the value of cotton manufactures imported during the same months, the exports having been $20,590,267 and the imports $58,796,601.

The rapid increase in the imports of cotton manufactures into the United States occurs chiefly in the high-grade goods, and especially in those in the production of which hand labor forms an important part. In this connection the following figures show the imports of the several classes for the nine months ended September 30, 1907: Laces, edgings, embroideries, insertings, ruchings, lace window curtains, etc., $30,629,368; cotton cloth—bleached, dyed, colored, printed, etc., $9,864,106; knit goods, $7,247,567; plushes, velvets, and velveteens, thread, yarn, etc., $11,796,601; total, $58,796,601. The first group (laces, etc.) shows the largest increase, amounting in round numbers to $10,000,000, as compared with the same months in 1905, while for the same period all other classes combined show an increase of $9,000,000. The imports of the first group now average $40,000,000 annually, and for the first nine months of 1907 the shares furnished by the various countries were as follows: Switzerland, $10,742,408; France, $9,467,887; United Kingdom, $5,401,858; Germany, $4,205,558; other countries, $811,657; total imports for the nine months, $30,629,368.

The bulletin says that, notwithstanding the fact that the United States produces three-fourths of the world's cotton, has a greater number of spindles than any other country except the United Kingdom, has over $600,000,000 invested in its cotton manufacturing establishments, and turns out products valued at $500,000,000 per annum (including cotton knit goods), the value of cotton manufactures imported is steadily increasing, and was in the fiscal year 1907 twice as great as in 1897, over two and one-half times as great as in 1887, and nearly four times as great as in 1877.

SPAIN.

INCREASED USE OF RAW SUPPLIES BY BARCELONA FACTORIES.

Consul-General B. H. Ridgely, at Barcelona, furnishes the following statistics as to the Spanish cotton year:

The figures for the port of Barcelona show that from August 31, 1906, to September 1, 1907, 280,626 bales of cotton were received from the United States, as compared with 239,033 bales for the same period of 1905–6—an increase of 41,593 bales. From other countries, cotton was received during the past two cotton years, as follows:

	1907.	1906.		1907.	1906.
Egypt (Alexandria)	19,072	21,224	Brazil	3,173	5,178
India	62,279	46,085	China	110	100
Soubougeac (Egypt)	18,503	10,971			
Peru	9,562	5,333	Total	107,996	88,886
Mexico	297	....			

Thus, adding the amount imported from the United States, it will be seen that in 1906–7 388,622 bales were imported at Barcelona, as against 327,919 in 1905–6, a difference in favor of the present year of 60,703, of which total increase the United States are credited with 41,593 bales. It should be added that at least fifteen-sixteenths of all the cotton imported into Spain comes in at Barcelona and is consumed in this city or its suburbs. [The names of importers of American, Egyptian, and India cotton at Barcelona, together with the amounts handled by each firm during the past year, are supplied by the consul-general and are on file at the Bureau of Manufactures.]

Of the 280,626 bales imported from the United States, 88,375 bales came from New Orleans, 26,638 from New York, 91,048 from Savannah, 67,449 from Galveston, and 200 from Pensacola. Prices in this market have fallen recently. Prices per bale during the first four days of October were for middling fair 105.4 pesetas (peseta, 17¼ cents); fair good middling, 103.2 pesetas; good middling, 101.5 pesetas, and fully middling, 100.4 pesetas.

According to figures posted at the cotton exchange here, the world's production of cotton amounted to 18,570,000 bales in 1906–7, as against 15,600,533 in 1905–6.

PERU.

NEW FACTORY STARTED—FIBER-GROWING ENCOURAGEMENT.

Consul-General S. M. Taylor, of Callao, reports the opening of a new American factory at Lima for the manufacture of finished cotton cloths, and describes the effect it will have on the market for textiles. He says:

The capital invested is $200,000. This will undoubtedly affect the import trade of cottons into Peru, as it is said the article produced is superior to the imported goods sold here on account of the cotton grown in Peru being of a better quality than that used by American and European factories in the manufacture of the same goods. The new factory has a capacity for turning out 4,000,000 yards annually, and will consume 500 tons of raw material each year.

There are now seven cotton factories in Peru, of which five are in Lima or vicinity, one at Arequipa, and one at Ica. The production of cotton goods in 1906 was about 2,000,000 yards.

The Peruvian Government is distributing free seed to the planters and is encouraging in every way the increased cultivation. It is very probable that in the near future the tariff on this class of goods will be increased to a point practically prohibitive; at least this is the expectation of those now engaged in the manufacture here. Certain it is that they are much encouraged to go ahead with additional outlays, being fully assured that they will be protected against any destructive competition from the outside.

BRITISH INDIA.

ONLY ONE MILL FOR CRUSHING AND SECURING OIL.

Consul-General W. H. Michael quotes a trade paper published in Calcutta as saying that there is at present only one regular cotton-seed oil mill in all India, and that is in Burma. Mr. Michael adds:

This mill, which is located at Myingyan, on the Irrawaddy River, was established in 1900 with a capital of $50,000. The mill consumes cotton seed produced in Burma and Bengal and Madras provinces, and does a business exceeding $40,000 annually. In this connection the journal calls attention, as has been done by this office in several reports, to the opportunity presented in India for the profitable investment of money in an up-to-date cotton-seed oil mill. A writer in the paper referred to says:

> It is almost a shame to see so much cotton seed go out of the country when it could be "expressed" here. The edible oil would be largely consumed throughout India, and the inferior grades would be used for the manufacture of soap. The oil cake would be used for food for cattle and for fertilizer.

I have already suggested that it would prove a profitable venture for some American familiar with the business to erect a modern oil mill in the cotton-producing region of India, not only for the profit in operating the mill or in selling it to local Swadeshi capitalists, which I am satisfied could be done very promptly, but also to open a market for American manufactured machinery for other mills that would soon be erected.

UNITED KINGDOM.

ACTIVE WORLD LEADERSHIP OF LANCASHIRE IN THE TRADE.

In the course of an address at Manchester on Great Britain's industrial development, Mr. Lloyd George, president of the British Board of Trade, had the following to say on the predominance of Lancashire in the manufacture of cotton goods:

> Well, now, it is really very astonishing what Lancashire has done in cotton. Here you have got to carry your material thousands of miles across the ocean and you beat the world. There are two or three figures I should like to quote here because they are very remarkable. They are figures full of romance. It is a great story—a story of British grit, of British brains, of British courage, and it is something—after all, we must not be too modest—to be proud of. Here we have the United States of America growing its own cotton and selling to the world last year £11,000,000 (£=$4.86) worth of fabrics. Here is Lancashire, which has to get its cotton from America, and, I am very glad to say,

now getting its cotton from the British Empire in growing quantities and in improving qualities, has gone up to £100,000,000, and you are going to exceed that this year. In five years you put something like £27,000,000 into the cotton business of Great Britain. The United States of America has put in something like £4,000,000 and Germany has put in £6,000,000, and we expect three times as much as both of them put together. So "let us eat, drink, and be merry." At any rate, if every county in Britain looks after its business as well as you are fighting your corner here in the great battle of British commerce, and fights for its own, there is nothing to fear, and the only thing you can say is, What Lancashire is to-day let England be to-morrow, and all will be well.

WORLD'S CONSUMPTION.

THE SEASON'S RESULTS PER SPINDLE—STOCKS ON HAND.

Vice-Consul John W. Thomas, of Manchester, forwards a newspaper extract which quotes an analysis by the International Federation of Cotton Spinners' and Manufacturers' Association, showing the consumption of cotton of all growths per spindle during the last two seasons, and the end-of-the-season stocks per spindle in each year. The figures which follow in every instance represent decimal fractions of a bale per spindle.

Country.	Season's consumption of all growths in bales per spindle.		Mill stocks on Aug. 31 in bales per spindle.	
	1905-6.	1906-7.	1906.	1907.
Great Britain	0.080	0.080	0.0092	0.0095
Germany	.183	.181	.0382	.0545
France	.139	.140	.0201	.0288
Austria	.191	.197	.0430	.0772
Italy	.283	.255	.0698	.0898
Switzerland	.066	.063	.0129	.0188
Belgium	.171	.172	.0341	.0544
Spain	.205	.184	.0119	.0325
Portugal	.198	.243	.0579	.0491
Russia	(a)	.233	(a)	.0644
Holland	(a)	.186	(a)	.0436
Sweden	(a)	.284	(a)	.0545
Norway	(a)	.162	(a)	.0298
Denmark	(a)	.419	(a)	.0242
Levant	(a)	.565	(a)	.0586
Egypt	(a)	.112	(a)	.0129
Japan	(a)	.787	(a)	.2665
United States	(a)	.190	(a)	.0380

[a] No returns.

FIBERS.

YUCATAN SISAL.

IMPORTANCE OF THE INDUSTRY—EFFECT ON BUSINESS CONDITIONS.

Special Agent Arthur B. Butman furnishes the following report on the sisal industry of Yucatan, writing from Mexico City:

The State of Yucatan, Republic of Mexico, is the home of the sisal fiber, which is grown in no other portion of the Republic, and is a much sought-for material in the world for cordage or rope making. The plant (Agave sisalensis) is of wild foreparent indigenous to the peninsula. The fiber industry of Yucatan was known to the Spaniards one hundred and fifty years ago, when the sisal was used in manufacturing rope for the Spanish navy. Its commercial use, however, was for a long time lost sight of, but was reentered upon in

1850 by the Spanish, who were driven from the arable lands into the rocky and unproductive regions by the Indians. To the industry as carried on during the past fifty years may be attributed the rise of Yucatan from one of the poorest to one of the richest States in Mexico.

The sisal plant closely resembles the century plant as known in the United States, and grows in regions where other cultivation is impossible, taking ready root in the stoniest localities. Planting is made from "hijos," or suckers, and the plants come to maturity in five years. Replanting is necessary not oftener than once in fifteen or twenty years, and the henequen may grow from twenty-five to thirty years. Maturity is determined by the position of the leaf on the stock, which at the end of the fifth year will have declined from a perpendicular to a right-angular position. When the leaf is thus placed the fiber has reached its maximum tensile strength, and the wise planter will harvest his product.

METHODS AND COST OF CULTIVATION.

Weather conditions have a marked influence on the amount of sisal which the henequen plant will yield. Normally a planter may cut twice a year, but should an overabundance of dampness occur maturity of the leaf is retarded and not more than three cuttings or harvestings will result in two years. There is no stated season for the harvesting of the fiber, this being governed, as before mentioned, entirely by maturity, as denoted by the position of the leaf on the stock. The labor wage in the henequen industry averages about 75 cents Mexican per day. The work is usually done under contract, a certain sum for the cutting of a thousand leaves, native Indians, who sometimes live for several generations on the same plantation, being employed. Only the males work in the fields, the Indian considering it a disgrace not to provide for the women of his household. All necessaries are purchased at the plantation store by the laborer, who is usually more or less indebted to the planter. An Indian henequen cutter prefers to earn 75 centavos a day, sufficient to live upon, and spend several hours at home, than to work full time and earn perhaps double the sum. He is content with his lot and chooses to take life easily. Notwithstanding the fact that field labor is at present scarce in Yucatan, the conditions are such that foreign labor can scarcely compete.

Nine-tenths of the food consumed in these families consists of Indian corn, large quantities of which are annually imported from the United States, it being more profitable to turn all attention to fiber growing than to raise any large amount of foodstuffs. Native black beans supplement the corn, meat being eaten not oftener than once, possibly twice, during the week. Gourds are utilized as dishes.

ACREAGE AND HARVESTING.

The average size of the individual henequen plantation is about 500 acres, and approximately 100,000 acres are at present under this crop in Yucatan, while employment is furnished to probably 90,000 persons. The instrument used for harvesting is a hooked knife, with which the leaves are cut close to the stock and the lateral thorn removed. The leaves are then tied in bundles and sent by portable railways from various parts of the plantation to the mill or central, where the process of cleansing is accomplished. The cleansing machine is a disk of huge proportions, furnished with knives, which revolves around a plane table. The thick, pulpy leaves of the henequen are inserted between the table and the disk, and the latter, revolving rapidly, removes the pulp, leaving the fiber, which is then placed on a clean, level surface and exposed to the bleaching rays of the sun. The drying process is quickly accomplished, during which the fiber will change from a bright green to a whitish-yellow color. It is then packed and pressed by machinery into compact quadrangular bales, weighing from 400 to 500 pounds each. If the sisal is packed before being thoroughly dried, it becomes oxidized, turning a black or rusty-red color. This naturally affects the selling qualities of the fiber, although the tensile strength is not lesssened thereby.

The henequen industry is in the hands of native planters and is constantly growing. Practically no American capital is invested. The total amount of sisal fiber exported from Yucatan during 1906 was about 600,000 bales, of which the United States purchased the bulk.

The manila trade naturally has a great effect upon Yucatan, and the present year, with its record output for manila, will doubtless result more or less unfavorably for the Yucatan planter. At the present writing (November 10) henequen growers are much alarmed at the decline in the price of fiber. A few days since the price was quoted at $2.50, and on November 2 at $1.88.

FINANCIAL RELIEF FOR PLANTERS.

A meeting of planters was recently held to consider the situation in the henequen industry, the outcome of which is thus described by a newspaper of Mexico City in its issue of November 10:

> Hacendados of Yucatan are now happy so far as the henequen situation is concerned, arrangements having been made with banking interests of this capital whereby they will be able to hold their crops until prices are such as will enable them to realize profits which will at least, it is hoped, approximate the values realized when normal conditions prevailed.
>
> This condition was made possible through the agency of the Chamber of Commerce of Merida, which sent, a short time ago, a commission to confer with local banking interests, namely, the National Bank, and which was successful enough to be able to go back to the Peninsula and announce to the hacendados that such a plan was not only feasible, but had been arranged.
>
> It is said that by the present arrangement a combine more perfect in its formation than that of a few years ago, organized by the planters with a capital of 40,000,000 pesos, has been effected despite the hard times prevalent in that portion of the country, as well as the tight money market throughout the world.
>
> It will be remembered that financial difficulties struck Yucatan before other parts of the world began to feel them, and that the National Bank of Mexico stepped into the breach and arranged matters, one of the first steps of that great institution being to install in the banks its own management, which, it announced, would be in a temporary way. Then cash was sent down to relieve the situation. Hacendados had felt the baneful effects of fire and drought, as well as previous heavy expenditures of money for machinery and improvements. The result was that hacendados threw upon the market whatever henequen, or sisal as it is known in the United States, they had in order to realize. The October statement of shipments shows conditions as follows: Through Progreso the exports during October of this year were 75,204 bales, the largest amount of sisal shipped out in that month during a period of three or more years, the next largest being over 5,000 bales short of this amount.
>
> The average price for this product was 23¼ cents per kilo. During October of 1906 bales to the number of 68,645 were exported, the average price being 28¾ cents, then considered a very low price. During the same month of 1905

the number of bales exported was 70,193, with an average price of a little over 32 cents. With these statistics before them, the hacendados have effectively prepared a method of campaign which, in these times of hard money, seems hardly possible.

It is the hacendados' proposition to hold their crop. So they have arranged to borrow money on it at reasonable rates of interest and bide their time. They have managed to arrange, like the cotton holders of the southern part of the United States, to store their crop until they can get a price that will bring them returns. Whether or not abnormal conditions enter as a factor, the hacendados of the Peninsula feel assured that the revalorization of henequen is certain and have laid their plans accordingly. They have arranged to go into British and Continental markets with their product, which is finding increased demand in those countries. While the United States took over 68,000 of the 75,204 bales exported during the month of October, the balance which went to other countries shows a good gain over exportations during the same month of the two previous years.

AMERICAN MACHINERY AND PORTABLE RAILWAYS.

Machinery used in the henequen industry throughout Yucatan is now purchased principally from the United States, the preference for American machinery over English, formerly used here, having shown a steady growth for some years past.

Yucatan affords a good market for rails for portable plantation railways, which are now furnished almost wholly by European manufacturers. I am told that no effort has ever been made by American exporters to enter this field, which is certainly worthy of their investigation.

The principal imports of Yucatan from the United States are machinery, barbed wire, hardware, cattle, Indian corn, canned goods, druggists' supplies, ready-made clothing, and boots and shoes. A certain amount of hardware is annually furnished by Germany. Cotton textiles of domestic manufacture are purchased from neighboring Mexican States, and ribbons from France.

The importations of druggists' supplies (perfumes, essences, toilet articles, etc.) from the United States is rapidly growing, and these goods of our country's manufacture bid fair to monopolize the markets of this State. In addition to sisal, Yucatan exports a few hides and a small amount of chicle.

GOOD LOCATION FOR WINDMILLS—BUSINESS DEPRESSION.

The situation of Merida, the capital city of Yucatan, renders it a peculiarly adaptable location for the use of windmills. Apart from the rainy season, when the use of artificial means for securing water is unnecessary, the trade winds blow constantly across the Peninsula. The American consul at Progreso, the port of Merida, informs me that not many years ago these countless windmills, giving a Dutch aspect to the landscape, were without exception of the old-fashioned wooden type. A modern American windmill was ordered for erection on his own estate and proved most satisfactory, both as a personal possession and as a factor in American trade extension. The object lesson of the consul's windmill whirling merrily when winds were low and his neighbors' windmills remaining motionless had marvelous effect, and as a result American windmills are now in general use in this locality.

Merida is at the present time under a financial cloud. The people, accustomed to large incomes, have grown lavish in their expenditures, spending more largely than occasion warranted, owing to a too good credit. Clearing day has taken place in Mexico, and an embarrassing situation in the money market has resulted. Sanitary regulations are becoming more stringent, necessitating ready capital on the part of householders to carry out the demanded improvements.

During the months of August and September there were registered 142 mortgages on real estate within the city limits of Merida the largest number ever registered in any two consecutive months of the city's history, and should the decline in the price of fiber continue the stress of the situation will be increased.

BRITISH INDIA'S JUTE CROP.

FINAL OFFICIAL FORECAST FROM VARIOUS PROVINCES.

In a previous report Consul-General W. H. Michael, of Calcutta, gave a preliminary estimate of the jute crop for Bengal Province, which he now states was fairly correct, as a comparison with the following report of the Agricultural Department will show:

The total acreage is 931,100, as compared with 932,500, shown in preliminary forecast. Excessive rain damaged the crop in Hooghly, Howrah, Jessore, and Khulna in the early part of the season. Floods did injury in Cuttack, Balasore, Hooghly, and Midnapore later in the season. In the latter half of the season the rainfall was insufficient in most other districts. Insects did damage in Howrah and Burdwan. In the case of Burdwan, Hooghly, Howrah, Nadia, and Khulna the estimated percentages of outturn have been slightly increased in consequence of further inquiry and references to local officers. The estimated outturn for the province works out to 73.67 per cent of the average crop, and 2,057,900 bales. Very little jute remains from the crop of last year.

A consolidated forecast for Bengal and Eastern Bengal and Assam estimates the acreage at 3,883,200, and the outturn of 9,585,800 bales this year, against 3,482,900 acres and 9,127,400 bales last year. The following are last year's figures, in bales, as reported to this office for other tracts: Cooch Behar, 79,000; Nipal, 50,018; Upper India (via E. I. R.), 10,520, and Madras (via B. N. R.), 1,057. This year Cooch Behar State estimates the outturn at 81,600 bales. Champaran, Muzuffarpur, and Sonthal Parganas have been included for the first time this year, as considerable areas have been cultivated therein.

RESULTS IN MADRAS PRESIDENCY.

Twenty-eight dollars worth of jute per acre of land was realized this year by the governmental farm in the Madras agency. In 1905 the experiments in growing jute on this farm were failures; the results for 1906 were more encouraging, and this year the station fully demonstrated that jute can be profitably cultivated in the delta and other areas in the Madras presidency. The jute raised this year sold for $3.43 per 80 pounds, and the gross income per acre was as stated. The success of the government in raising jute on this experimental farm will open up a new industry in a large area where it was thought jute could not be successfully grown.

The area planted to indigo in Madras presidency this year is the smallest for five years, the total number of acres being 76,600, or 19 per cent under the acreage of 1906. The crop is reported in fair condition.

The acreage in sugar cane in Madras presidency is 38,700, which is 12 per cent less than last year.

RAMIE CLOTH IN CHINA.

NEW MACHINE FOR TREATING THE FIBER TESTED IN SHANGHAI.

J. W. Ragsdale, consul-general at Tientsin, sends the following from the Shanghai Mercury on a new process invented by a resident in China for treating ramie:

The introduction of ramie cloth into England and other countries has engaged the attention of experts all over the world for several years past, but it is only very recently that any real success has been attained. Ramie is well known as a China grass, and grown in unlimited quantities all over the country. It is used in its raw state by the Chinese for the manufacture of a coarse cloth, rope, etc. The great difficulty has been the softening and degumming of the fiber, which has rendered it almost impossible to weave a pure ramie warp. A process has recently been discovered by Mr. W. McGregor Smith (well-known in Shanghai and the East generally for over fifty years, and the father of the sugar industry in China), who, on September 20, gave a successful demonstration, in the presence of a number of Shanghai gentlemen, of the process, by means of which the ramie fiber, direct from the market, becomes a soft filasse, far superior to cotton yarn and very much like silk. The process lasts but ten minutes and is most simple. The ramie is first placed in a vessel containing boiling water, to which is added some secret composition, and after boiling four and one-half minutes it is washed, bleached, and thoroughly degummed. The fiber comes out almost snow white and, as stated before, is very much like silk. The fiber is not in the least injured by the process, but rather strengthened, and it is said to be ten times more durable than cotton. Specimens of ramie mixed with cotton, wool, and silk were exhibited, in addition to the pure ramie threads and cloth. Ramie can be successfully dyed without the least injury to the fiber. The cotton market at present being so uncertain and subject to so much "cornering" and silk being scarce and high, ramie would appear to have a great future, and it will doubtless in time play an important part in the clothing of the world. It has been repeatedly tested in mixing with cotton at the Yu-sing cotton mill in Shanghai, under the direction of Mr. Thomas Currie, a capable spinner from Oldham, Lancaster. The following letter from him, written at Shanghai in September, will speak for itself:

"The yarn contains 50 per cent of ramie or China-grass fiber and 50 per cent cotton, and has been spun entirely on cotton-mill machinery. I do not consider this a good sample of what a mixture of 50 per cent ramie and 50 per cent cotton is capable of, as the nolls were cut by hand and not even enough to mix with the short cotton staples, and I worked the sample throughout on the first machine that doffed, irrespective of counts or hank. I am positive from my experience with ramie that it can be successfully mixed with all American cotton and will improve the strength and evenness of the product when judiciously mixed, and the only additional expense to cotton-mill machinery will be a cheap cutting machine that may be designed by any engineer."

There is at present an unlimited supply of the fiber and an unlimited demand, and the industry should prove one of the biggest in China. To compare the probable prices, ramie will be put on the market at a slightly higher cost than cotton, while, compared with the price of silk, it will be some ten times cheaper. A local company is about to be floated in Shanghai for the purpose of acquiring McGregor Smith's process for China, Japan, and Korea. Mr. Smith is also the inventor of a decorticating machine, the rights of which the company will also acquire.

USED FOR MANY PURPOSES.

Consul Thornwell Haynes sends from Nankin a similar report and adds that in his consular district ramie, or China grass, is cultivated 50 miles to the east and west of Kiukiang on the Yangtze, and is employed in the manufacture of ships' cable, lace and cambric, velvet, table linen, and alpaca. As far as memory serves the Chinese have cultivated this nettle for garments, which are considered indestructible, in that they can be dyed for generations.

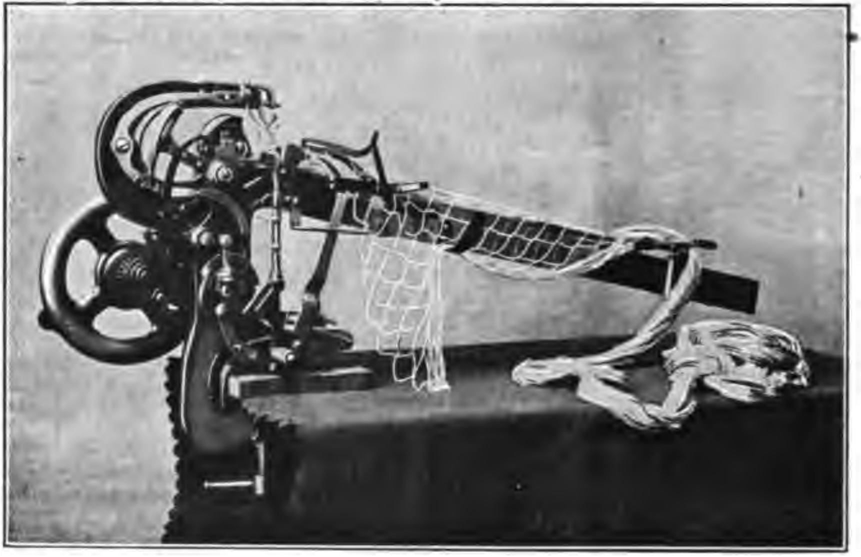
[The use of ramie has attracted much attention in the United State in recent years.—B. of M.]

FISH-NET MACHINE.

A NORWEGIAN INVENTION WHICH WILL SAVE HAND WORK.

Consul F. S. S. Johnson writes that a Norwegian, Mr. Cornelius Lie, of Bergen, has, after many years of study and experiments, invented a hand-power net-making machine, which may be thus described:

The weight of the machine shown is a little over 20 kilos (about 46 pounds avoirdupois). The spool carrying the thread is of ordinary construction, and can be filled by hand, but the spool winder is supplied with each machine. The knot made by the machine is the same as that formed in hand net making, is absolutely firm, and in the opinion of experts is beautifully formed.



Norwegian hand-power net-making machine.

The mechanism shown near the end of the long steel rod is for the purpose of keeping the rows of meshes parallel during the construction of the net, and this, combined with the excellence of the "hand-made" knot, has the effect of giving the net a good stretch and hang. The machine is operated by turning the large wheel shown in the illustration.

There is no limit to the length of the net which can be made on the machine, and 400 meshes wide can be produced. The arm which carries the row of meshes as these are formed can be made longer, and thus a larger width of net can be obtained. If it is desired to have a net tapering away at the end like the belly of a trawlnet, that can be done by dropping a mesh at each side as each row of meshes is formed. The machine is to a large extent hand made, and it has been worked at the rate of about 60 to 80 knots a minute. It is estimated that it will be possible to place the machine on the market at a price not far exceeding $90. [Two illustrations giving other views of the mechanism of the net machine will be loaned to applicants by the Bureau of Manufactures.]

WOOL PRODUCTION.

ICELAND.

PRODUCTION AND VALUE OF FLEECE IN THE ARCTIC ISLAND.

Consul-General F. R. Mowrer, of Copenhagen, states that on account of its peculiar quality the wool exported from Iceland merits special study. His descriptive report follows:

Climatic conditions restrict natural products possibly more in Iceland than in any other part of the world. Grazing is relatively most extensively carried on and sheep raising is the chief source of income to the inhabitants. During the past century the number of sheep has increased from 280,000 to more than 900,000.

The wool of the sheep is principally shorn in the spring, when it becomes so loose and heavy that it can be practically pulled off by hand. However, in late years it has been sheared off, which process produces a greater quantity. Its quality seems to be affected by climate, that from the north being better than that from the west and south.

The Icelanders themselves consume a quantity of the wool in the manufacture of underwear, stockings, and mittens, for which Icelandic wool is specially adapted. These articles are also exported to Newfoundland. Most of the wool, however, is exported, and for many years chiefly to England, but on account of the duty in the United States the manufacture of cloth from this wool in England for export has decreased. In recent years most of the spring white wool has been shipped to the United States, as shown by the following fiscal-year statistics of values of exports to that country: In 1903, $71,019; 1904, $126,833; 1905, $234,069; 1906, $267,683, and in 1907, $282,663.

The total annual export of Icelandic wool amounts to from 1,000,000 to 1,250,000 kroner ($268,000 to $334,400). This amount varies according to the price of wool, which during recent years has fluctuated very much, viz, from 0.48½ krone to 1.1 kroner (13.9 cents to 29.5 cents) per Danish pound (equal to 1.1 English pounds) for spring wool. The latest returns show that the export of spring white wool amounts to 1,100,000 kroner ($294,800), the export of autumn white wool to 70,000 kroner ($18,760), and the export of mixed wool to 70,000 kroner ($18,760). The export to Germany is increasing.

AUSTRALIA.

NO INCREASE IN OUTPUT OR IN EXPORTS TO AMERICA EXPECTED.

Consul-General John P. Bray, of Melbourne, reports that present indications would imply that the wool production of Australasia during the forthcoming season (1907–8) will be about that of last season, viz, 2,900,000 bales. It is anticipated that the quality, price, and number of bales (100,000) of the wool purchased for the American market will also show very little alteration.

GERMAN WEAVING INVENTION.

METHOD OF TRANSFORMING HAND INTO POWER LOOMS.

Consul George A. Bucklin, jr., of Glauchau, reports that a master weaver of that German district has just put into successful operation his invention by means of which hand looms may be driven by electric power, a description of which follows:

It is so contrived that all of the parts of the old loom may be used except the "frame." The loom so made over answers all of the requirements of a power loom, and even works much more quietly, since the blow is given by a spring which is compressed by an eccentric. The power for such a loom is said to be inexpensive, the cost of the electricity consumed amounting to about 28 cents per week. The operation of the loom is so simple that it can be directed by a child. The invention is one that promises to be of great value to this region, as of late years there have been hundreds of looms crowded almost or entirely out of operation by the more rapid and labor-saving power loom. A preliminary patent has already been granted.

INDIAN COIR YARN.

MATERIAL FOR RUGS PRODUCED FROM COCOANUT HUSKS.

Consul-General W. H. Michael, of Calcutta, reports as follows on the production of coir yarn:

The Laccadive Islands, lying off the west coast of India, produce a considerable quantity of coir yarn annually. This yarn is brought over to the mainland, mostly to Mangalore, at intervals during the year and sold there to coir merchants. The demand for the yarn comes for the most part from southern and western India. Coir is yarn made from the fiber of the husk of the cocoanut, and is used largely for making mats and very coarse rugs. There was a time when the yarn was largely used in making cheap and coarse cloth used by the inhabitants of the Laccadive Islands and on the mainland as well.

AGRICULTURAL TOPICS.

FARMING INDUSTRY.

SOUTH AFRICA.

RHODESIA LAND SETTLEMENTS—PRIVILEGES TO COLONISTS.

A number of inquiries having recently been received by Consul John H. Snodgrass, of Pretoria, from persons in the United States requesting particulars as to the terms upon which farms in southern Rhodesia are obtainable, and other points in connection therewith, such as the character of the country, what the principal crops are, and the like, he has obtained the following particulars:

Through the courtesy of the lands department at Salisbury I have been able to secure certain information stating the conditions governing grants of land and other facts that may be of interest to those who contemplate settling in South Africa. Farms in Mashonaland are generally 3,000 acres and in Matabeleland 6,000 acres in extent, but in cases where fair subdivision is practicable, they may be subdivided to suit the applicant. The purchase price is fixed according to the situation and other attributes of the land applied for, with a present minimum of 50 cents per acre; selection is in every case subject to the approval of the administrator. Arrangements for the easy payment of survey fees are made.

The importation of cattle into the territory from the south and over sea is at present limited to the introduction of breeding animals only from the United Kingdom and the Cape Colony. Such animals imported from the Cape Colony must not have more than two permanent central incisor teeth. Cattle may be imported from northern Rhodesia into Mashonaland for general farming purposes, and into Matabeleland for slaughter purposes only. Application for a permit to introduce stock from the Cape Colony must be addressed to the chief veterinary surgeon, Salisbury, and must be accompanied by a certificate in the following form:

> I certify that the animals enumerated below have been in my possession since birth and that lung sickness, contagious pleuro-pneumonia, or any other contagious or infectious disease has not existed among any of my cattle or on my farm within the last three years, and that such cattle in traveling to —— station will not come into contact with any animals among which lung sickness or any contagious or infectious disease has existed during that period.

Movement of stock in southern Rhodesia for bona fide farming or mining purposes is allowed under a special permit obtainable from any one of the veterinary officers. General transport by oxen is not allowed at present; but as African coast fever has now been practically stamped out, the freer movement of cattle within the territory will shortly be permitted.

TRANSPORTATION CONCESSIONS—FARMING CONDITIONS.

Until other arrangements are made bona fide farmer settlers and their families proceeding to Rhodesia for the first time may be allowed transportation concessions on presentation of an order from the British South African Company, being given a one-half fare rate over one railway and a one-fourth rate over the other line, on tickets, furniture, and farming equipment. Farm settlers may import their goods at the reduced rates at any time within six months of their arrival in Rhodesia. A rebate of 50 per cent is allowed over Cape railways and of 75 per cent over Rhodesian railways, Vryburg to Bulawayo section, to settlers making a preliminary trip from the Cape Colony. Full fare must be paid at the commencement of the journey, and a refund of the concession will be made on proof being furnished that the person has actually settled in Rhodesia.

Maize and native grain are grown with success throughout the country. Barley, oats, and wheat have been raised on a small scale in the Salisbury, Umtali, Victoria, Enkeldoorn, and Melsetter districts. Fruit trees do well and bear at an early age. Citrus fruits in particular do well. The climate and soil of southern Rhodesia are particularly adapted for the cultivation of tobacco, and in many districts leaf of a superfine quality is grown. Cattle, sheep, and goats thrive throughout both Matabeleland and Mashonaland. Wooled sheep are raised in the Inyanga and Malsetter districts, and merino wool from the former district has realized high prices in the Liverpool wool market. Native sheep and goats are also easily procurable.

I would not advise settlers with limited means, however, to come to South Africa. There may be many opportunities for sheep and cattle raising in certain sections of Rhodesia, the Transvaal, Orange River Colony, and British East Africa, but a large amount of capital is absolutely necessary to guarantee success. It takes years to get a start in farming here, and even under the most favorable circumstances it is an uncertain undertaking for the reason that the country from the Cape to the Zambesi has been afflicted with many pests, such as cattle diseases, horse sickness, sheep diseases, droughts, and grasshoppers. Hence, it would be well to consider the matter carefully before deciding to settle in any colony in South Africa.

OPPORTUNITIES IN SWAZILAND.

INCREASED TRADE—MUCH INTEREST IN COTTON GROWING.

Consul Snodgrass furthermore reports that the mining and industrial chamber of Swaziland, a dependency of the Transvaal, has made public its report for the fiscal year ended June 30, 1907, which indicates a satisfactory economic condition, as the following will show:

The total imports amounted, approximately, to $200,000, an increase of $70,000 over the preceding year, and exports to about $200,000, an increase of $16,000. Revenues amounting to $150,000 are recorded, with expenditures of over $400,000, the latter being augmented by large sums paid for the monopolies commission.

There was a production of gold amounting to 2,166 ounces, valued at $45,000; the tin output aggregated 270 tons, of the value of $150,000. It is expected that during the ensuing year three new gold mines will commence operations, and since the beginning of the present fiscal year the Forbes Reef Battery has started crushing, after having been closed down ten years. There has been a large increase in the native labor supply, owing to the sympathetic attitude of the

Transvaal government, which has shown what it is possible to do in the tin output, one mine in August having exported $20,000 worth of that product.

In the experiments conducted last year by one concern, it was proven that lint cotton can be produced and landed at the nearest seaport at a cost of $20 per bale of 500 pounds. Swaziland cotton is sold at 1 to 2 cents more than American middling, which, after deducting 1 cent per pound for freight, would leave a profit per acre of about $25.

COTTON EXPERIMENTS—LAND PRICES.

The soil in the more easterly parts of the country is very rich and is considered suitable for the cultivation of cotton, which grows wild in many parts of the country. Large areas have already been acquired both by private owners and by companies, and a good many varieties of cotton, such as "Cook's long staple," "Russell's big boll," "Truit's big boll," "Abassi," and "Bohemian," are grown with gratifying results, although the area under cultivation has as yet been small. Two corporations [listed at Bureau of Manufactures] and other landholders are taking up the matter commercially.

The results of the various experiments are as follows: Yield of ginned cotton per acre, 450 to 500 pounds; value in Liverpool, 7d. (14 cents) to 9d. (18 cents) per pound; cost of cultivation, picking, ginning, etc., per acre, £4 10s. ($21.88). As will be seen, this leaves a good profit per acre, especially as these results were obtained by men quite unskilled in cotton cultivation.

The labor being at hand and plentiful is another great advantage, the Swazie women and children having taken readily to the work of picking.

In a country so well watered as Swaziland and with such a steady rainfall the question of drought never arises, while the numerous streams provide water power in most places. Freights from Delagoa Bay are very low, as there is no export trade of any consequence, many of the vessels returning in ballast.

The price of the best land is still low, being 10s. ($2.50) to 15s. ($3.75) per acre. No minerals are included in these areas. The nearest seaport is Delagoa Bay, some 30 miles distant. The existing railway line from Delagoa Bay to Pretoria runs along the northern boundary at a distance of about 20 miles. Another line of railway from Delagoa Bay to Swaziland is nearly completed to the latter border. It is expected that in the near future this railway will be extended into Swaziland, where there are great areas of steam coal, and from thence on to Johannesburg.

COLOMBIA.

MACHINERY AND MODERN IMPLEMENTS UNKNOWN TO THE PLANTERS.

Consul Isaac A. Manning, of Cartagena, reporting on the crude agricultural methods prevailing in Colombia, writes as follows relative to the opportunity therein for the introduction of American tobacco-cultivating implements:

In view of the general interest in Colombian tobacco and the increased production thereof, the opportunities for the sale of implements for its cultivation should be excellent. In this connection, however, a short criticism which appeared recently in a Cartagena daily paper may be quoted:

> Traveling agents or representatives of European or American houses who come to Colombia for the purpose of introducing agricultural machinery, electric machinery, transportation equipment, etc., are very rare. On the other hand, a month does not pass but we receive visits from sellers of pills, sirups, and tablets, nearly all of American manufacture.

Colombia is credited with being an agricultural country, but it is said that in the great wheat-growing belt of the interior the grain is yet planted in the old-time way, reaped with a cradle or the older sickle, and thrashed with a flail. I know it to be true that much tobacco is planted in soil where the only cultivation has consisted of cutting down the brush, burning it, and then setting out the plants.

One thing necessary before any great business can be done in agricultural machinery of any kind in this country will be to demonstrate the use thereof in a practical way. Agricultural machinery is not known here, much less understood, and the people must be shown how it can be used, wherein conditions would be bettered by improving their methods of cultivation, and that American machinery is simple enough for the common laborer to use. The people here are not mechanics and have few mechanical ideas. They fear a piece of machinery because they do not understand how or why it does its work. Demonstration is the only way to overcome this condition and lack of application. Until something has been done to show the people how American agricultural implements work there is little use to send catalogues. Ground-working machinery must be made especially for these countries, with a view to overcoming heavily matted roots and vines, while grubbing machinery will be necessary to put the soil in shape for using plows, cultivators, harrows, seeders, etc.

American implement manufacturers should send out a few good men who will go to the largest farmers in the country and show what can be done with the up-to-date power tool or implement, and soon there will be noticeable results. After the use of smaller implements is begun it is but a step to larger ones. [The names and addresses of tobacco planters and the largest exporters of tobacco accompanied the consul's report, and are on file in the Bureau of Manufactures.]

FRANCE.

CAREFULLY GROWN POTATOES SHIPPED TO MANY COUNTRIES.

Vice-Consul-General D. B. Mason, of Paris, furnishes the following illustration of the growing of potatoes in France for export as a suggestion for American agricultural enterprise:

It has been reported by the French ministry of agriculture that potatoes to the value of $1,352,000 were shipped from France to Southampton in 1906, while the corresponding shipments in 1905 amounted to $1,387,424. The slight decrease is accounted for by a dry season in France and large shipments from New Zealand. As far as can be judged at present the results for 1907 are likely to be exceedingly satisfactory, as numerous and large shipments—exceeding those of former years at the same time—have already been reported.

It is true that the district about St. Malo, which produces the greater part of the French potatoes which are exported to England, enjoys good shipping facilities and cheap freight rates to Southampton, but this export trade is also largely due to good methods of cultivation and the skillful manner in which the crop is collected and exported. Good methods of cultivation and exportation are shown by the facts that French potatoes are exported to such distant countries as South Africa and the Argentine Republic and that this lucrative trade is increasing.

It is claimed by French agricultural experts that the trade with non-European countries could be largely increased by raising varieties of potatoes which can best stand transportation and by more careful packing. The fact that French and New Zealand potatoes can be sold profitably in Southampton and that, in spite of the high price of land in France, French potatoes are sold in Buenos Aires and South Africa should prove an incentive to Americans to make the most of their natural advantages by employing the best varieties of seed and the best methods of cultivation, and whenever sufficiently low freight rates can be obtained to render the exportation of American potatoes profitable to make the most of the opportunity.

CANADA.

PLAN TO ESTABLISH STOCK YARDS AT WINDSOR.

According to Consul Harry A. Conant, a movement, which is now being taken up by some of the large Canadian stock breeders, may shortly result in making Windsor the principal sale center in the Dominion for Canadian stock, so far as sales to buyers in the United States are concerned. The consul writes:

The principal difficulty the Canadian breeders have to face in attempting to sell to the United States market is the duty imposed by the United States Government. They have been complaining for some time that in view of this duty it has been next to impossible to induce buyers from the States to attend their sales in Toronto, and the plan now under consideration is to make the market more accessible to the American purchaser.

It is thought that Windsor would be a desirable sale center for stock to the United States on account of its position opposite one of the large American cities and within easy access of the Middle West. As the result of negotiations between the authorities of Windsor and one of the large firms of cattle breeders at Bobcaygeon, Ontario, it has been arranged, as an experiment, to hold a sale of 70 head of thoroughbred double-standard polled Hereford cattle at the Windsor driving park November 28, and on the success of the sale will depend the company's course in future.

If the sale is well attended by the American buyers, it is proposed to form an association of the Canadian breeders to hold other sales and at the same time to ask the Dominion Government for a grant to help build the sales pavilion and stables that will be necessary. The working out of the idea might result in giving Windsor a high-class stock show, similar to that of Guelph and other places. Windsor would profit greatly and the farmers of Essex county would also have a chance to improve their stock.

ALGERIA.

THE LOCUST BEAN GROWS ABUNDANTLY.

Consul James Johnston writes from Algiers that the carob tree (French, caroubier) grows profusely along the highways and in small plantations throughout Algeria; the fruit or bean comes to maturity in August. Transactions in this commodity commence the latter part of July and terminate at the end of September.

Prices vary considerably from one year to another and, generally speaking, fluctuate with the oat and barley markets. The opening price for the 1907 crop was $2.22 per quintal of 220 pounds on the quay at Algiers. It is, however, anticipated that the closing price will be about $2.50. The mode of shipment for large quantities is usually in bulk by full cargo sailing ship or entire hold of steamer. Another way is in bag, which, it appears, is not practical, as owing to the rough nature of the bean the bags deteriorate very quickly and they can seldom be used more than twice. The export statistics for 1906 show that 2,468 tons went to France, 1,635 tons to England, 26 tons to Belgium, and 1 ton to Germany. It is estimated that an active agent could gather together during the season, from August to September, about 3,000 tons. [A list of the commission merchants at Algiers who handle the carob beans is filed for reference at the Bureau of Manufactures.]

GERMANY.

TENDENCY TO SUBSTITUTE BEETS FOR CEREALS IN SAXONY.

Consul Thomas H. Norton, in the following report from Chemnitz, shows that the production of beet-root sugar in the Kingdom of Saxony is rapidly increasing:

The surface devoted to the culture of the beet root amounted in 1906 to 4,888 hectares, or 12,220 acres. The average yield of roots was 32,300 kilos per hectare, or 28,810 pounds per acre. This is an increase of 2,900 kilos per hectare on the yield of 1905. The total quantity of roots used in sugar manufacture, increased from 82,252 metrical tons (90,477 short tons) in 1905 to 157,937 metrical tons (173,730 short tons) in 1906. The total amount of sugar produced in 1906 was 24,770 metrical tons (27,247 short tons), against 15,363 metrical tons (16,899 short tons) in 1905. These figures show that on an average 6.37 pounds of beet roots yield one pound of sugar.

Central Germany, especially the Prussian province of Saxony, is still the chief sugar-producing region of the Empire, but the tendency is strongly marked in other sections to devote land hitherto employed in the cultivation of cereals to the culture of the beet.

EGYPT.

RETURNS SHOWING VALUE OF PRINCIPAL EXPORTS.

Consul-General L. M. Iddings, of Cairo, forwards the following table showing the value of the more important Egyptian exports, after cotton and cotton seed, for 1906-7, the values being about 15 per cent too low, owing to the system of customs valuations:

Article.	1905.	1906.	1907 (8 months).
Eggs	$410,180	$531,125	$871,575
Hides	688,480	901,175	587,600
Rice	717,665	655,190	416,933
Cotton-seed meal	1,078,820	1,191,465	595,000
Onions	1,966,745	1,085,150	1,083,220
Sugar	1,999,980	215,995	127,905
Gum arabic	1,085,660	786,650	509,820
Cigarettes	2,771,860	2,329,315	1,282,855

MARTINIQUE.

DIVERSIFICATION IN CROPS BEING INAUGURATED.

Consul Chester W. Martin, of Martinique, reports that, encouraged by the Government and seeing the necessity of not depending entirely upon the sugar crop, a commencement is being made on that West Indian island in the planting of coffee, cacao, and lime trees. The number set out this year is very small when the population and area of the island are considered, but it is a start in the right direction, and if carried out will greatly improve industrial conditions. The plants are grown by the Government and sold at small cost. For the first six months of 1907, 7,000 cacao, 9,900 coffee, 2,310 lime, and about 4,000 of all other kinds of trees were taken. There are now on file requests for 38,000 plants of all kinds.

EAST INDIES.

VALUE OF COFFEE CROP OF JAVA AND SUMATRA.

Consul B. S. Rairden, of Batavia, reports that the production of coffee in Java and Sumatra for the past two years was as follows:

Variety.	Private production.		Government production.	
	1905.	1906.	1905.	1906.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*
Java	23,747,928	35,958,508	14,307,432	22,215,464
Liberia	13,047,620	11,142,072	2,005,822	2,598,008

BRITISH INDIA.

EXTENT OF INDIGO CROP OF BENGAL.

Consul-General William H. Michael, of Calcutta, reports that the area planted to indigo in Bengal this season (1907) represents over 37 per cent of the total area planted to indigo in British India. According to the reports to the department of agriculture, the area sown in Bengal was 153,000 acres, which is less by 8,500 acres than last year. The total outturn estimated by the government is 31,089 factory maunds, or 2,487,120 pounds. According to an indigo firm in Calcutta, however, the production will be less by 567,120 pounds.

ARTIFICIAL IRRIGATION.

MEXICO.

EXISTING AND PROJECTED CANALS—FEDERAL AND STATE ENCOURAGEMENT.

From a lengthy report on irrigation in Mexico, by Consul Louis Kaiser, of Mazatlan, the following paragraphs are taken:

The great influx of foreigners, with a vast amount of capital and energy, which has steadily flowed into Mexico for the last fifteen years, has awakened a deep and growing interest among the more wealthy landowners throughout the Republic, and the Federal and State Governments have also shown that they appreciate this most far-reaching step toward creating a prosperous and wealthy class of landowners and farmers. The Government has done much in the interest of irrigation in all parts of Mexico by granting most liberal concessions to landowners in the different States of water rights for irrigation purposes, and most all the governors of the various states have given special concessions to individuals and companies for the same purpose.

The Mexican Government is experimenting with various methods for obtaining the best results from irrigation. Interest is also being awakened in experimental stations, where the planters will be treated to practical demonstrations so that they may be enabled to increase their returns. The dry-farming process in vogue in the United States is likewise to be well tested here. Recently President Diaz appointed Dr. D. Pedro Olsen Seffer as special representative of the Government to study in the various tropical countries of the world the best methods for handling soil and seed, with special reference to the cultivation of rubber, cacao, coffee, sugar, and other products peculiar to Mexico.

IMPORTANT FEDERAL SURVEY.

When the farmers of Mexico understand their soil better, the benefits to be derived from scientific irrigation, the proper employment of fertilizers, and the possible results from products hitherto untried and which are successful elsewhere, the agricultural conditions of Mexico will be improved as much as transportation facilities were bettered by the introduction of steam.

One of the most important steps taken lately by the Government is to send Engineer David de la Fuente, of the Government staff, on a survey of all streams and rivers and waterways, especially in the northern part of the Republic, with instructions to make a full and detailed report upon all waterways, as well as lakes, paying special attention to making an accurate estimate of the physical characteristics of the country through which they flow, their general direction, capabilities for irrigation purposes, and the production of water power. He will also incorporate in his report an estimate of the number of acres under cultivation and the amount of land subject to irrigation. This report will show at a glance the great importance of irrigation to the agricultural interests and will also be of great value to the Government.

COAHUILA AND DURANGO.

In the State of Coahuila agriculture and horticulture are on an extensive scale. The hacienda Perote covers over 29 square miles, or about 18,700 acres, and has a water supply sufficient to irrigate nearly 1,000 acres of vineyard and orchards and some 3,000 acres of fields devoted to other agricultural products. The water is obtained from subterranean veins in the mountains. Two long tunnels have been bored into the mountain side at sufficient height to conduct the flow to the areas to be irrigated.

The high lands in the State of Durango produce every variety of vegetation useful to civilization. By the intelligent selection of seed and the use of modern implements and improved methods, it is safe to count upon yields of 50 to 75 bushels of corn per acre in many localities without irrigation. Where irrigation is used still larger yields are obtained.

Cotton can be grown to advantage only at an elevation not exceeding 5,000 feet. In the high lands of Mexico practically all the cotton is raised by irrigation. A yield of one to two bales is common—500 pounds to the bale. The usual price is about 12 to 14 cents gold per pound. Irrigated cotton lands in the States of Coahuila and Durango are held at $100 to $200, United States currency, per acre, and many of them are not on the market at any price.

Almost all of the alfalfa and clover are grown by irrigation, yielding five cuttings a year, and when baled is worth $12 to $15 per ton.

Vegetables of all kinds are easily grown, and where there is irrigation fresh vegetables are had at all seasons of the year.

JALISCO AND SINALOA.

Guadalajara, the second largest city in the Republic, is dividing thousands of acres of farming lands, there being plenty of water available for irrigation purposes. Many Mexican farmers are becoming conscious of the great value of irrigation and are determined to employ the proper means to obtain it. Artesian wells are being sunk on the high lands with very satisfactory results.

Sinaloa is one of the best watered States in the Republic, having, besides its innumerable inlets and bays, ten good-sized rivers, of which the Canas and the Fuerte are the largest, and which form the southern and northern boundaries of the State.

In the district of San Ignacio are located the Piaxtla and Ajoya rivers, each of which finds its source in the Sierra Madre. In this section nothing of importance has been done by irrigation, although there are thousands of acres of choice fertile lands waiting for water schemes, and which are capable of supporting and sustaining from 1,000,000 to 2,000,000 people.

The area of surveyed and titled lands in the State of Sinaloa is estimated at 17,500,000 acres, of which 85,000 hectares (1 hectare=2.471 acres) are under high cultivation, 50,000 are under advancing cultivation, 60,000 hectares are grazing lands which can all be cultivated, and about 75,000 hectares are not tillable. The amount of arable land in this region, but not cultivated, is about 400,000 hectares.

The district of Mazatlan has two large rivers—Presidio and Quelite—each of which is about 160 miles in length. Outside of the district are more than ten streams, all within the border of this State, which furnish water enough to irrigate all the fertile lands of the State.

SONORA AND TAMAULIPAS.

Entering the Gulf of California about 30 miles south of Guaymas is Yaqui River, which is navigable for light-draft vessels a distance of about 30 miles. It drains a large watershed, and in the lower portion the valley widens into an immense area of very fertile lands, susceptible of a high state of cultivation and producing abundantly all kinds of grain and other products belonging to both temperate and torrid regions.

Upon the south side of the river the Sinaloa and Sonora Irrigation Company has recently completed a great canal, which will conduct water from the river to irrigate nearly half a million acres of land, all of which is naturally very productive. The canal is 40 miles long, 54 feet across the top, 35 feet across the bottom, carries a volume of water 9 feet in depth, and is a triumph of engineering skill and science. The head gates are heavy steel structures, weighing several tons each, and set in sluices of massive masonry. In passing from the level of the river bed to the level of the lands covered, the canal traverses a tunnel cut in solid rock a distance of several hundred feet.

Recently a company of capitalists was formed to cut another canal upon the north side of the river, which will irrigate a like area of land of equal fertility and value. About 40 miles southerly from the Yaqui River is the Mayo River, which also flows through a great and fertile valley, and is likewise susceptible of magnificent development by irrigation. As yet nearly all the land in the valley consists of virgin soil.

One of the most important and significant agricultural enterprises ever launched in Mexico has had its inception in the signing of articles of agreement between Governor Arguelles, of Tamaulipas, and the owners of the Sautana hacienda, in the same State. This is one of the largest haciendas in the Republic and as such attracts attention. The agreement relates to one of three different classes of experiments in irrigation that President Diaz desires to make before the Government adopts a fixed policy in the matter, and the experiments will therefore be watched with unusual interest.

The intention of the owners is to bring in large numbers of colonists from the United States and Europe. La Sautana hacienda is traversed by several rivers and these will furnish their quota of water for irrigation.

ASIATIC TURKEY.

PLAN TO IRRIGATE THE PLAIN OF KONIA.

A Smyrna journal publishes an article concerning a plan to irrigate the plain of Konia, in Asia Minor, of which the following, forwarded by Consul Ernest L. Harris, is a translation in part:

> For some time a scheme has been under consideration for reclaiming the plain of Konia, and there now seems a reasonable prospect that the work will be carried into execution. The irrigating water will be supplied by the lake of Bey-Chehir, which is situated 100 miles west of the city of Konia. Two small streams, Bey-Chehir-Souyou and Tcharchamba-Souyou, which carry off the overflow of the lake, will be canalized for a distance of 90 miles. A canal of 19 miles will be built around the low and marshy district of Karaviran, known under the name of Sogla-Gheul. Another canal of 12 miles will unite the abovementioned rivers at the narrow gorge of Valikova.
>
> Several dams, three large reservoirs, an aqueduct, as well as countless small canals, will have to be constructed for the distribution of the irrigating waters. It is calculated that 132,500 acres of soil will thus be opened to cultivation. When comparing this area with other well-watered regions of the Empire, it has been estimated that the grain-producing soil thus reclaimed will increase the output by 20,000 carloads.

FORESTRY PRODUCTS.

LUMBER TRADE.

SPAIN.

COMPLAINTS OF IMPORTERS ABOUT SHIPMENTS FROM UNITED STATES.

Consul-General Benjamin H. Ridgely, of Barcelona, forwards the complaint of a Spanish lumber importer against American shipments, together with the following comments:

Spain is especially suitable, because of its climate, for the consumption of pitch pine, known in the United States as long-leaf yellow pine, and considerable quantities of this lumber are imported from Georgia and other Southern States, but nothing like as much as ought to be imported, considering the strong and steady demand. Recently I asked an old and active agent why this was the case. His answer is interesting, and although I can not vouch for the truth of all he says it is none the less a matter of fact that much complaint has been heard in lumber circles here against certain American exporters. In any event, here is what the agent above referred to said:

Spanish lumber importers and agents have become largely disaffected for two reasons—first, because American lumber exporters give them none of the facilities that are accorded by north of Europe exporters, particularly those of Norway, Sweden, and Finland; again, because of the fact that American cargoes are seldom up to specifications Spanish importers have lost confidence in them to a very large extent. This, of course, does not apply to all American exporters, but it is the rule rather than the exception. In Sweden and Finland many lumber firms have steadily made big money in Spain, merely by treating their buyers and agents with consideration. Buyers know that contracts with these firms will be carried out to the letter; and, on the other hand, north of Europe exporters know that the forty or fifty Spanish importers with whom they have to deal are honest and responsible men, who will faithfully meet their obligations. It is a very rare thing indeed that lumber exporters make a bad debt in Spain. Thus sellers may do business safely in Spain either directly with the importers or through reliable agents on the usual European terms of buyers' acceptance of sellers' draft at four months' time, payable in London or Paris in exchange for shipping documents. Buyers also frequently ask for the option of paying cash with 2 per cent discount, which is invariably accorded.

Now, American exporters employ very different methods. First, they ask for the money before the buyers can see the goods; that is to say, they must have the money through confirmed bank credit the moment they ship the goods. Then when the goods come forward and buyers find, as they have done too frequently, that they are not up to specification, they have no redress. On the other hand, while it is very rare that north of Europe exporters ship goods inferior to contract specifications, when this does occur the fullest satisfaction is at once accorded the buyers, either by acceding to any reasonable claim merely upon the buyer's statement, or else by appointing an expert surveyor to examine the goods and determine what amount is fairly due, if any. The seller and buyer both invariably accept this award, and thus remain good friends.

SHIPMENTS NOT UP TO EXPECTATIONS.

I am not going to say that all American shippers fail to deliver cargoes according to specifications, but far too many of them do, and, as a consequence.

they have earned an unsatisfactory standing in this market. Cases have been known where goods have been shipped of from half to one inch less thickness and width than mentioned on documents, besides perhaps several feet shorter, even short lengths for stowage, which are invoiced at two-thirds price, being invoiced as much longer and at full price. Say, for example, an exporter contracts for pieces 3 by 9 inches, with an average length of 20 feet, and the shipper sends 2½ by 8½ inches by 11 feet. What is contracted for is worth, say, $24 per 1,000 superficial feet; what is shipped is worth only $16 per 1,000 feet. Calculating the deficient measure and the difference in value, it will be seen that the buyer only gets about one-third of what is charged to him in the invoice, and if there be several hundreds of pieces like that the loss is enormous. To substantiate their invoices, shippers of this category produce an official-looking document, purporting to be the detailed specification or schedule of the cargo, and such document generally agrees in almost every detail with the contract, and the invoice is made out from it; thus the buyer's bankers think the shipment is all right, and are induced to hand over the money to the shipper in exchange for what they believe are documents duly in accordance with the contract sent them by their clients. But the schedule is perhaps misleading as regards the details of measures, qualities, etc., although the total number of pieces is correct. This, indeed, it must be, else the captain of the ship, who has of course kept his tally, would not sign the bill of lading, inasmuch as he is responsible for the number of pieces, but not for measures, quality, etc. Presumably the person who signed the certificate also took notice of only the number of pieces, or else deliberately signed a misleading document.

SAFER TO BUY THROUGH LONDON HOUSES.

Some of the largest importers in Spain have declared lately that consequent on the bad manner in which American lumber shippers have treated them these last two or three years they have determined not to buy any more pitch pine unless they get some real substantial guaranty that contracts will be properly carried out by sellers, and they declare the best guaranty is to let about one-third of the invoice amount remain unpaid until the goods have arrived and been found in order. There would be no risk in sellers doing this, for the contract would provide for arbitration in case of dispute. There are always a lot of new firms springing up in the United States, with elaborate letter paper, none or very few of whom are even known here, who will enter into a contract to deliver any quantity, quality, specification, etc., that the buyer may want, and then if it suits them deliver the goods in a more or less satisfactory manner. Should the market rise, they simply do not trouble further about the matter, or make some trivial excuse, saying something about a fire, or a flood, or anything, and then the buyers, agents, etc., may write and cable them until they are tired, without even ever getting a reply. Should the market go down, such sellers deliver, if possible, to the full extent of the credit opened. Should the buyer think of going to law with shippers of this class, he finds the selling firm no longer exists in exactly the same name, and that the new owners of it know nothing about contracts entered into by their predecessors and deny all responsibility, although being, perhaps, the very same individuals. As I have said, there are, of course, some good firms, but not as many as there ought to be. In fact, our buyers have learned to have such little confidence in these shippers that nearly all of them prefer to buy secondhand from English firms of long standing, whose names are a guaranty that contracts will be fulfilled properly. Thus the shippers lose the large intermediary profit which such English houses make. The English firms, I may add, give the usual trade credit, and duly settle all disputes to the general satisfaction of buyers. If United States shippers would give satisfactory guaranty of due fulfillment of their contracts—for instance, leave one-third of invoice amount unpaid—that is, one-third of the f. o. b. value of the goods, not of the freight—they would certainly be able to do a very large business with Spain, for, by properly carrying out their engagements, they would reestablish, in course of time, a good name for themselves, and eventually capture the confidence of Spanish lumber importers.

As stated in the introduction, I can not vouch for the truth of all that has been set forth in the above rather severe indictment, but I do know that there is much complaint here, and if American lumber merchants want to do business in Spain they might do worse than to give these complaints their careful attention.

KOREA.

STATUS OF YALU VALLEY AND NEIGHBORING TIMBER RESOURCES.

A request for information regarding the lumber interests of Korea and Manchuria elicits the following response from Consul-General W. D. Straight, of Mukden:

The principal lumbering region in Korea is in the extreme north, along the banks of the Yalu and Tumen rivers. Southeastern Manchuria, touching the same streams, is also heavily wooded. As far as I know, the lumbering industry has not been developed on the Tumen, i. e., the eastern, or Pacific, slope, but has for some years yielded considerable profits to those engaged therein along the Yalu. Large quantities of timber are annually floated down the Sungari River, which rises near the sources of the other streams mentioned, flowing through the same forest-clad country to the northwest, while the Yalu flows southwest and the Tumen southeast.

In the general readjustment which followed the termination of hostilities with Russia the Japanese, in their treaties with both China and Korea, arranged that the forests on both banks of the Yalu should be reserved for exploitation by Japanese-Korean and Japanese-Chinese companies. By special agreement with the Emperor of Korea the Japanese now exercise absolute control, though there is a nominal partnership, of the timber industry in northern Korea. The provisions of the treaty with China have not yet been carried out, and there is considerable friction regarding the interpretation thereof. It is probable, however, that the outstanding differences will eventually be settled and that the joint stock company will be floated.

The forests are located about 300 miles upstream, and the timber felled by native lumbermen is trimmed and floated downstream during the spring, summer, and early autumn. Sticks are generally 8, 16, 24, and occasionally 32 feet long—rarely exceeding the latter length—and about 10 by 8 inches throughout. Larger logs are the exception. The annual output has in the past averaged 2,000,000 and over, estimated in 8-foot sticks, the longer ones being counted as one, two, three, or four sticks, as their lengths might warrant.

Ninety per cent of the output consists of pine generally of excellent quality. As far as I have been able to gather, the woods are as follows: Red pine, yellow pine, white pine, sand pine, oil pine, red elm, red elm (small leaf), yellow elm, oak, walnut, "lemon" wood, small willow, "color" wood (logwood?), yellow arbor vitæ, and a tree "with fruit like a shaddock." These names are in many instances literal translations from the Chinese.

MARKETING FOREST PRODUCTS.

It is undoubtedly the purpose of the Japanese interested in the formation of the timber company on the Yalu to place their timber on the oriental market. A scientific plan for felling and conserving the forests will be followed, and in addition to the sawmills, which now handle only a small proportion of the total amount of timber rafted downstream each year and which have been established at Antung, New Wiju, and Yongampho—one at each place—other and larger works will be operated. Yalu timber has heretofore been exported from Antung and Tatungkou, two ports near the mouth of the river, largely by junk to the Chinese provinces of Shantung and Chihli, and has of course been used in Manchuria and northern Korea as well. It has never been properly seasoned, and the sawmills date only from the time of the occupation of this region by the Japanese forces. For the past two and a half years they have been engaged solely in supplying the wants of the military authorities and have not, as far as I know, attempted to place their product on the market.

Inasmuch as 3,099,613 cubic feet of hard wood, valued at about $1,000,000 United States gold, and 170,247,345 square feet of soft wood, valued at about $3,000,500 United States gold, were imported into China during the year 1906, it is reasonable to suppose that the operation on the Yalu of a large and well-organized timber company will appreciably affect the sale in China of foreign lumber. The lumber originating in virtually the same forests which supply the Yalu industry, but floated down the Sungari River, is principally used at Kirin, the capital of the province of the same name, in the manufacture of coffins and for shipbuilding. Junks constructed at this place ply on the waterways of northern Manchuria. The timber, however, is not exported to any great extent.

Very extensive forests, which have not up to the present been exploited to any appreciable degree, are found in the Russian maritime province, north of Vladivostok. Accurate figures are not available regarding the extent of forest land, but a rough estimate would be between 10,000 and 15,000 square miles in northern Korea and southeastern Manchuria.

WALES.

WELSH MINES AFFORD AN ATTRACTIVE MARKET FOR TIMBER.

Consul J. H. Johnson, in the following report from Swansea, calls attention to the very high prices ruling in Wales for mine timber, which he thinks should attract American lumber manufacturers who are now throwing away material suitable for pitwood:

Among the many imports that come to the port of Swansea, timber forms an important article of the merchandise. During the preceding year over 100,000 tons were imported here and the quantity during this year already amounts to considerably over 55,000 tons. Although a great quantity of the timber is imported for building purposes, the bulk may be described as "pitwood" for use in local coal mines.

France, Norway, Sweden, and Spain are the largest suppliers, the first three countries contributing about equal quantities. The French and Spanish woods are known to the trade as "forest hewn fir timber" and the wood from Norway and Sweden is stripped of bark and sold as props. The various sizes of pitwood posts imported are as follows:

Length.	Diameter.
Feet.	*Inches.*
6½	4 to 8
9	6 to 10
13	9 to 14

There are more 6½-foot and 9-foot posts required than 13-foot. The French and Spanish wood is sold here like the native grown—that is, by the ton weight—but the Norwegian and Swedish are sold by the linear measurement, based on the diameter. Small cargoes of about 300 to 500 tons often arrive here, and huge consignments are frequently "reported;" at the present time there are three vessels in the port discharging over 9,000 tons of pitwood.

The following are the average prices, free on rail at dock, Swansea: French and Spanish wood, about $5 per ton. Norwegian and Swedish wood, although sold by measurement, would work out about $1 per ton more. This is stripped of bark and consequently lighter timber.

There are numerous berths in the various local docks where timber and pitwood could be discharged expeditiously, but the most convenient size cargoes are about 1,200 tons or thereabout. The average rate of freight on such a cargo from Bordeaux and Bayonne, France, and from Norway, Sweden and Spain would be about $1.50. The cost of discharging pitwood in Swansea is 33 cents per ton, out of which the steamer pays 28 cents.

I have been prompted to report on this matter by the extraordinary present demand here for the timber described and the current prices are easily 50 per cent more than the average prices mentioned above. I know that thousands of tons of suitable timber are practically thrown away in our country, and the present prices here would warrant American exporters of timber, such as oak, larch, and fir of all kinds, to make the usual business inquiries and probably find a regular and good market in Welsh ports.

SALVADOR.

HIGH DUTY AND CLEVER IMITATIONS RESTRICT FURNITURE IMPORTS.

Consul-General Samuel E. Magill, of San Salvador, reports that the prohibitive duty on imports of lumber and manufactures thereof has caused the demand for furniture in that Salvadorean city to be supplied from native wood and native workmen, with the following result:

The native has become quite skilled in the manufacture of chairs, bureaus, wardrobes, tables, etc., and, as native hardwoods supply a great variety of grain and color, the local home is well furnished. Supplied with catalogues illustrating designs offered by furniture factories of America and Europe, the native workman will make a copy of any design, even to carving, at a price much lower than the cost of the same article delivered here, with duty and freight added.

Woods similar to walnut, oak, ash, ebony, maple, rosewood, and mahogany are offered for selection, and when delivered in the form of household furniture show a polish and finish surprisingly good. Local manufacturers do not yet show sufficient care in drying woods before use, but are improving. To give local prices of such furniture would not be of value to our furniture manufacturers, as they depend on the kind of wood, class of work, and amount of carving. It is enough to know that, piece for piece, the local article is sold cheaper than the imported article can be, when freight and import duty are added, and hence no immediate opening here for American furniture manufacturers or shippers of lumber can be seen.

RUBBER INDUSTRY.

GERMANY.

RAPID INCREASE IN THE TRADE—STEAMER LINE ASSISTS.

Consul-General Richard Guenther, of Frankfort, reports that the large increase in imports of Brazilian rubber into Germany appears to be, to a large extent, the result of a direct steamship line between Hamburg and northern Brazil. The consul-general continues:

The Hamburg-America Line in 1902 entered into an agreement with the English Booth Line (which up to that time had monopolized the traffic with northern Brazil) to the effect that the Booth Line should give up the traffic to Hamburg and Antwerp. The Hamburg-America Line, jointly with the Hamburg-South American Steamship Company, then pushed the traffic with northern Brazil and made special efforts to stimulate the Hamburg imports of rubber. Formerly the Hamburg trade in Brazilian rubber was exclusively in the hands of foreign houses, so that, in 1902, for example, only 1,800,000 marks (mark=23.8 cents) worth were imported directly from Brazil out of the total imports of rubber of 43,000,000 marks. The main imports of Brazilian rubber at that time came via England. The imports of rubber, in consequence of the largely increased demand, have grown very greatly since then, so that the total value of the imports in 1906 reached 114,000,000 marks in round numbers.

The imports of Brazilian rubber, which, as already stated, amounted to only 1,800,000 marks in 1902, increased to 3,300,000 in 1903, 5,300,000 in 1904, 14,500,000 in 1905, and to 20,000,000 marks in 1906. Among the countries furnishing rubber to Hamburg, Brazil now occupies second place. The German consul-general at Rio de Janeiro states in a report that the beneficent influence of the Hamburg-Brazilian steamship service has increased the exports of Seringa rubber to Germany seven times, comparing the years 1901 and 1905.

The imports of rubber from the German colonies in Africa show also a steady increase. In 1902 the imports from German West Africa amounted to 1,800,000 marks against 7,500,000 in 1906, and from German East Africa 800,000 marks in 1902, against 2,200,000 in 1906.

The large advance in the value of rubber imports is also partly accounted for by the enormously increased consumption. The average value in Hamburg, per metric ton of 2,204.6 pounds, was 3,520 marks in 1902, against 6,050 marks in 1906.

MEXICO.

EXTENSIVE CONCESSION GRANTED BY THE GOVERNMENT.

Consul-General A. L. M. Gottschalk, of Mexico City, in announcing a recent Mexican Government concession, calls attention to the danger of the total exhaustion of the guayule rubber supply in that country. He says:

Under date of October 28 a concession was granted to two Mexican lawyers, Señor Fernando Solís Cámara and Señor Ricardo Arteaga, who purpose organizing a company for the exploitation of all the guayule existing upon the unclaimed Government lands in the States of Zacatecas and Durango. The contract obligates the concessionaires to respect all lands owned by private individuals or by municipalities and to exploit the lands in question for no other purpose than that of harvesting guayule during the next ten years. Six months are given them to survey the lands and report upon the exact localities where guayule is to be found. They are to pay an annual rental of 8 per cent of the actual selling price of the land in question. One clause in the contract prohibits the concessionaires from cutting any but "adult plants," but no provision whatever is made for reseeding or replanting. The concessionaires shall moreover pay 100 Mexican pesos ($49.80 United States currency) to the Mexican Government as their share of the cost of governmental inspection of their works. They may not transfer this contract to any foreign government nor state, nor may they admit such to partnership with them, but no mention is made of their associating with themselves private individuals. They may also pasture upon the lands in question any amount of cattle which may be necessary to them in their exploitation of the guayule. Within one month 5,000 Mexican pesos ($2,490 United States currency) in bonds of the national consolidated debt shall be deposited in the Banco Nacional de Mexico as a guaranty of good faith.

BRAZIL.

DECREASE IN CROP IN COMPARISON WITH PREVIOUS YEAR.

Consul-General George E. Anderson, of Rio de Janeiro, states that the returns for the past season in Brazilian rubber entries indicate something of a falling off as compared with 1906, although the general impression is that the crop will be substantially the same. He adds:

Entries for July were 1,370 tons as compared with 1,840 in the same month last season, and for August 1,500 as compared with 1,690 last year. The heavy shipments of the year, however, will come later, and the prospect may be materially changed at any time.

In this connection it is interesting to note the world's consumption of rubber as compared with its production for the past seven years as given in the Diario Oficial, the Brazilian Government gazette, as follows:

Season.	Production.	Consumption.	Stock.	Season.	Production.	Consumption.	Stock.
	Tons.	*Tons.*	*Tons.*		*Tons.*	*Tons.*	*Tons.*
1899-1900	56,848	48,352	8,869	1903-4	61,759	59,666	4,288
1900-1901	52,864	51,136	6,941	1904-5	68,879	65,068	4,584
1901-2	56,887	51,110	6,816	1905-6	67,999	62,574	5,352
1902-3	55,608	55,276	5,058				

Of the 68,000 tons produced in 1905-6, 23,400 came from Africa, 1,800 from Asia and the East Indies, and the rest from the Americas, mostly from Brazil. The continued decrease in stocks on hand at the close of each year explains the advancing prices of the rubber market in recent seasons. The estimated consumption in the last season noted is taken as being temporary only.

FOODSTUFFS.

FRUITS AND PRODUCTS.

CHINA.

GOOD OPENING FOR AMERICAN PRODUCTS—HIGH PRICES.

Vice-Consul Ernest Vollmer, writing from Tsingtau, says that it would be hard to find an American export which has a better chance of developing large sales in China than American fruit. He gives the following market particulars:

Last year an American cargo of lumber came to Tsingtau from some Pacific coast port. Some of the officers brought along a lot of California navel oranges, which were sold out quickly, and which met with such favor that the ship was overrun with people trying to buy more after the entire lot had been sold. Since then I understand no American oranges have been on the local market. Lemons sell here for 5 cents gold each, which would seem to be a high enough price when compared with Pacific coast values to warrant an investigation as to the possibilities of supplying the Chinese market. The American oranges are far superior to the small, seedy, tight-skinned Asiatic ones, and would surely be received with favor. If it were possible for large quantities of this fruit to be shipped to Australia when the line from San Francisco was running, there seems to be no obstacle to prevent their shipment to China.

American apples, especially those of Oregon, are also favorably known here. Some dealers in Shanghai make a regular business of importing them, and a Tsingtau firm has a standing order with the Shanghai house. The apples are by far the best that come to this part of the country; they sell well, and their keeping qualities leave nothing to be desired. Aside from oranges, lemons, and apples it is hardly probable that any other fruit could be sent across the Pacific and find a ready market, but if exporters would make connections with Shanghai jobbers or commission men it is absolutely certain that a large and growing trade could be worked up.

POPULARITY OF AMERICAN CANNED GOODS.

All of the American tinned fruits are to be found here and command a ready sale. The two largest hotels in Tsingtau each have a course of California fruit every noon and evening, which is undoubtedly the most popular number on the bill of fare. Peaches, pears, and fall apples grow well locally and are shipped extensively to other parts of China, but there are no canneries, and families do not seem to preserve fruit to the extent they do in America. The result is that a great deal of the American goods are used; everybody knows them, and they are universally admitted to be the best to be had. Prices are somewhat lower than those in America, where the cost of tinned fruit has gone up a great deal within the last two years, seemingly without a corresponding increase over here.

Though such a satisfactory statement can be made regarding our tinned fruit, just the reverse has to be said of our jams, jellies, and preserves. It may be that no attempt has been made to sell the goods in any quantity over here, the cost being perhaps too high, but they are certainly not on the market. Practically everybody eats something of this sort for breakfast, and great quantities of currant, blackberry, strawberry, orange marmalade, and other preserves are thus consumed. One might suppose that with the size this industry has reached in the United States it would be reasonable to expect at least some American goods, but everything is English, with occasionally some German goods. If we could succeed in diverting this trade we would gain a market with a great buying capacity and one which is certainly worth capturing.

FAVORABLE MARKET FOR DRIED FRUIT.

When it comes to dried fruits the American product again makes a better showing, but one which could easily be improved upon. Prunes, apricots, peaches, pears, and other orchard fruits are found, but they do not hold the dominating position which their quality should insure them. Arizona dates are now well known in many countries and compare well with any others. California figs have no equal for quality and have an enormous sale, but those things can not be purchased out here, despite the fact that people are just as fond of them as are other nations. Our raisins should also command a ready sale throughout the Orient. Glazed fruit coming here from Europe by steamer over the hot southern route simply can not arrive in as good condition as could American glazed fruit coming through cooler waters. It must be remembered that people out here spend their money readily for all such delicacies, as they have little else to spend it on. There are no fine restaurants where they can go for a change, so that if they get to liking anything they will buy it to a greater extent than they would if living in any other country. If our packers will make a study of conditions in China and put up the articles mentioned so that they will keep in this climate they can be almost absolutely certain of a good business.

Fruit sirups, lemon and lime juice, and similar articles are also in demand here, and a trade in these things might also be worked up. [A current list of preserved fruit prices at Tsingtau may be secured from the Bureau of Manufactures.]

CANADA.

HIGH PRICES FOR ONTARIO APPLES—LARGE SHIPMENTS TO EUROPE.

Consul A. G. Seyfert, of Collingwood, reports that the part of the Canadian Province of Ontario known as the Peninsula has for some years been famous for its vast productions of fruit, and gives the following account of the apple orchards and this year's crop:

The eastern exposure of the mountain range that extends from Lake Ontario to the Georgian Bay seems to be the ideal home of the apple tree. In the vicinity of Collingwood this fact has been fully proved, for the mountain side is almost one continuous orchard extending from farm to farm. The great success in growing perfect apples is largely due to the short season. All varieties are planted, but the leading one is the Northern Spy, which matures late in October and, with proper care, keeps until late the following summer.

The San Jose scale has not made its appearance so far in this fruit section. Bugs and other insects so injurious in a more southern climate are frozen during the severe winters. Spraying is unknown, for there is no need of it. This year's apple crop was decidedly the best ever grown. Most of the apples were bought early in the season by buyers from Great Britain, and thousands of barrels were shipped to Glasgow by way of Montreal. The price paid was from $1 to $1.50 per barrel on the tree. The owner of the orchard who refused to sell early in the summer sold later and got from $2 to $3 a barrel.

A firm from Rochester, N. Y., has an apple evaporating establishment at Collingwood and another at Creemore. They bought 10,000 barrels at $1 a barrel delivered at the factory. The whole output of evaporated apples has been sold by this firm at 8 cents a pound and will be shipped to the Northwest. The waste, such as the core and parings, is dried, barreled, and shipped to France, where it is used for making "champagne." The smaller grades of apples, not big enough to pare, are cut up by the machines and evaporated with cores and parings and are shipped to Belgium, where they supply the wants of the poorer class of people.

Many other fruits are grown in this district, but plums and peaches are next in importance. This is the highest latitude in Canada where peaches have been successfully grown, and their successful cultivation here is due to the peculiar conditions of climate produced by the mountain on one side and the open bay on the other.

UNITED KINGDOM.

GENERAL COMPARISON OF AMERICAN AND CANADIAN APPLES.

Vice-Consul Albert S. Phillips advises that complaints have from time to time reached the Cardiff consulate from fruit dealers in that Welsh city in respect to American apples, concerning which he writes:

In an investigation of these complaints I was glad to find that the statements of the complainants, though accurate in respect to certain particular cases, were far from a correct representation of our entire apple trade in this part of the world, as was asserted. The following points, however, developed in the course of the investigation:

Canadian firms classify their apples into three grades, and the sizes of their barrels and boxes are uniform. The Canadian government has regulated these grades as to quality and size of fruit, and if packers deviate therefrom they are liable to a fine. This government control inspires dealers with confidence, and the fact of there being only three grades simplifies the trade, making it possible for dealers to have a perfect knowledge of what they are purchasing. These conditions do not obtain, however, in the United States; on the contrary, marks run from 1 X to 25 X, and the sizes of barrels and boxes differ in every State, thus, according to the dealers here, rendering the trade most complicated. They further state that an even greater evil resulting from this system is the packing of low-quality fruit.

I have been shown large numbers of barrels where the packing was very uneven, consisting of small green apples on the top and at the bottom, with decayed fruit in the middle. It has also been pointed out to me—and judging from the fruit I have seen on the Cardiff market I am forced to admit it—that Canadian apples receive more care in gathering and packing than the American fruit. It is difficult, in the face of the division of opinion that exists among dealers and also from the limited view afforded by Cardiff, to venture a statement as to how far these facts influence the trade in general, but they are worthy of serious consideration.

GERMANY.

MANUFACTURE OF NONALCOHOLIC APPLE JUICE AT MANNHEIM.

Consul Samuel H. Shank reports that there is located in Mannheim a factory for the manufacture of pure apple juice, free from alcohol, the product being known as "Pomril." The process of manufacture is described by the consul as follows:

Dried chopped apples are soaked for twelve hours in water, which is then drained off and sterilized by heating. This part of the process is secret, but it is similar to that used by Pasteur. After the sterilization the juice is put in bottles which have been sterilized, after which carbonic-acid gas is added and the bottles sealed. The following is the result of a chemical analysis of Pomril (a liter being 1.0567 quarts and a gram 15.432 grains):

Amount, liters	2.4	Remaining extract, gms. p. liter	87.1
Specific gravity at 15° C	1.0368	Mineral matter, do	2.6
Alcohol	Absent.	Acid (apple acid), do	4.59
Extract, grams per liter	107.0	Nitrogen, do	.875
Invert-sugar, do	71.2	Carbonic acid, do	4.22

The apples used are purchased in the United States (being shipped from Rochester, N. Y.), the German apples not being suitable, owing to insufficient acid. It is also claimed that for the same reason the apples raised in the Southern States of our country are not suitable. The duty on apples is 76 cents per 220 pounds. This factory uses about 800,000 pounds a year, making 3,000 bottles of Pomril a day, the bottles containing 0.6 liter each.

The wholesale price of Pomril for the domestic market is 30 pfennigs (7 cents) per bottle, without the packing. The price for export is 36 pfennigs (8.6 cents) per bottle f. o. b. Rotterdam. Pomril has not been exported to the United States, but has had a considerable sale in the countries of South America.

SPAIN.

ESTIMATE OF VALENCIA ORANGE CROP—SMALL HOME CONSUMPTION.

According to Consul C. C. Winans the latest estimates of the present Valencia orange crop in Spain indicate a prospective yield slightly in excess of the average of the last five years (about 900,000,000 pounds). He adds:

As this estimate does not include the 10 to 12 per cent normal yearly increase of new plantations, the present crop, barring accidents, will probably total 1,000,000,000 pounds. Shipment commenced at the end of October and opening prices were quoted at $1.80 to $2 per case of 420 oranges f. o. b. Valencia.

Experience of recent years proves that foreign markets importing Valencia oranges can only consume at most two-thirds of the crop without forcing prices down to disastrous limits, and the problem of finding a profitable outlet for the remaining third is yearly becoming more difficult to solve. Spanish home consumption of oranges does not exceed 8 or 10 per cent of the crop, mostly fallen fruit and the refuse of the packing stores. Transportation rates to cities in the interior are so high that it costs three times as much to deliver a case of Valencia oranges in Madrid as to place it in Boston or New York, and Valencia oranges transshipped at British ports are frequently met with in markets in the north of Spain. Under normal conditions and in years of average crop the cost of producing oranges in this region is about 14 cents an arroba of 25 pounds.

FLOUR MARKETS.

NORWAY.

THE AMERICAN ARTICLE IN GREATEST FAVOR.

Consul F. S. S. Johnson, of Bergen, advises that American flour is in great favor and demand in Norway; sales are increasing daily, and it now can be found in almost every small store in Bergen; its chief competitor is flour made of grain imported free of duty from Russia and other countries. The consul continues:

In 1906 there were imported from the United States at Bergen 80,000 bags (a bag weighs 100 kilos or 220 pounds), or 60 to 70 per cent of the whole amount imported. Sales are made through the subagents of European commission houses. Some firms have adopted the American system of putting up flour in cotton bags of small quantities, and it is said that the experiment has proved a success. Little or no grain is grown in Norway. It is imported principally from the Russian Black Sea ports and England to supply Norwegian mills, which, with cheap labor, no customs duty, and water power, as yet are unable to check the increased demand for American flour.

It is a difficult matter for any American consular officer in Norway to obtain the exact import statistics for goods imported from the United States into this country. Coming by way of a European port they are credited by the Norwegian customs officials as coming from that country instead of from the United States. It is the hope of the merchants, importers, and exporters of Bergen that on the completion of the railroad to Christiania an effort will be made to have direct steamship communication with the United States. The exports from the ports of Bergen and Stavanger, on the western coast of Norway, far exceed those of the ports on the eastern coast, where direct communication is had with the United States. Hamburg-American freight steamers are to call at Christiansand.

STEAMSHIP COMPETITION.

The competition between the different lines for freight to America is very keen and rates are in consequence low. The demand for

American flour could be further increased if sales were made direct to the importers instead of through commission houses having subagents in places like Bergen, Trondhjem, etc.

In England our flour finds a keen competitor in the Canadian flour. Here we are the master of the situation, and if a little more attention were given to business and receiving orders direct from the importers and doing away with the broker and commission merchant more orders could be had. A general complaint heard throughout Europe of American manufacturers is that they are only looking out for large orders; that they do not care to fill small ones, and if they do, they are slow in executing the order.

Most of the rolled oats arriving in Bergen come from the United States, imported in bags of 50 kilos, and are generally shipped by the way of England. In the official list of importations they are put down as English.

I would recommend that our manufacturers have direct business transactions with the importers of their goods. They will find that they will thus secure more orders, and the importers will be enabled to sell goods cheaper to the consumer, as the commission of the broker and his subagent are done away with.

ASIATIC TURKEY.

PRESENT CONDITIONS AFFORD AN OPPORTUNITY FOR SALES.

Consul E. L. Harris states that at the present time there is undoubtedly a market for American flour in Smyrna and in Asiatic Turkey generally, and describes conditions as follows:

The causes of this demand are poor crops in this section of Asia Minor and also the high flour prices ruling in Roumania and Russia, which countries regularly supply this market. French flour is also sold in Smyrna, but owing to its quality and adulteration preference is given to the Russian and Roumanian article. It must be remembered by American flour dealers that there is a rigid chemical examination of all flour entering Turkey, and adulterated goods will not be admitted. The regulations, however, covering the importation of flour are reasonable, and no producer of pure flour need be afraid that his goods will be excluded. A few years ago an effort was made to introduce American flour into this market, but it did not meet with success. A considerable quantity of flour arrived and was refused entry on the ground that it contained impure matter, which rendered it unfit for food. Whether or not this was the case seems never to have been proven. At any rate, after it remained in the custom-house for six months it was eventually returned to America.

As the American dealers require payment at the time of shipment, Smyrna merchants fear to buy flour which may be refused by the custom-house authorities, thus necessitating shipment to some other port at a heavy loss. Dealers guaranteeing that their goods are pure can find business in Smyrna, especially in a year like the present one, when crops are short all over Turkey. The direct steamship service now permanently established between this port and New York should enable importers in this city to obtain regular shipments of American flour. The freight rates, however, must be low enough to enable the names of the dealers in flour at Smyrna, as given by the consul, are on file at the Bureau of Manufactures.]

AUSTRALIA.

EXTENSIVE EXPORTS OF CEREALS FOR THE CURRENT SEASON.

Consul-General J. P. Bray, of Melbourne, reports, under date of September 4, that since December 15, 1906 (the beginning of the 1906–7 season), the shipments of wheat and flour from Australia have been as follows. He adds:

The shipments totaled 24,523,649 bushels of wheat and 1,234,742 sacks of flour, together equivalent to 30,450,410 bushels, or 815,636 tons, of wheat. The value is estimated at $23,266,736. A comparison with the corresponding figures of the three previous seasons follows:

Year.	Bushels.	Equivalent in tons.	Value.
1903–4	30,569,983	818,838	$23,237,537
1904–5	28,620,080	766,609	22,896.886
1905–6	31,400,262	841,078	24,356,832
1906–7	30,450,410	815,636	23,266,736

As compared with last season, the total to date shows a decrease of about 950,000 bushels. The total of 30,450,410 bushels includes 19,446,249 bushels for Europe, 4,499,133 bushels for South Africa, 3,004,652 bushels for Hongkong, China, Japan, Siberia, and Manila, 1,640,934 bushels for South America, and 1,859,442 bushels for other destinations.

The Australian wheat crop for 1906–7 was about 68,000,000 bushels, and, after providing for local consumption for food and seed, the surplus available for export was about 40,000,000 bushels, of which, as shown, about 30,500,000 bushels have already been shipped.

CHINA.

FOOD SCARCITY IN MANY SECTIONS.

Vice-Consul Ernest Vollmer, of Tsingtau, reports as follows concerning the market for flour in that part of China:

Many Pacific coast millers have representatives in this country who visit Tsingtau occasionally, and by keeping in touch with the trade do much to offset the Canadian and Australian competition. From all reports obtainable, a severe famine seems imminent in Honan, while conditions in western Shantung and southern Chili are such that there will probably be a scarcity of food this winter. This stricken district can be reached over Tsingtau by the Shantung Railway and also via the Peking-Hankow Railway. What money there is in that country will undoubtedly go toward buying food, and American millers should see that foreign concerns do not get the business.

BRITISH INDIA'S SPICES.

ALIMENTARY VALUE AND USE OF ORIENTAL SEEDS AND LEAVES.

In reply to a request for information by New England educational interests on the spices of India, Consul-General W. H. Michael writes as follows from Calcutta:

The terms spices and condiments are applied to a class of substances which possess aromatic and pungent properties, and are mixed with food for the purpose of exciting the appetite. Many articles of this class not only assist digestion but by tempting the palate increase the amount of food consumed and thus stimulate a flagging appetite. To the native of India spices and condiments are indispensable, and in their production India has always been noted, if not preeminent, her ports having been resorted to by the nations of the West from prehistoric times in search of these commodities. India has a large export trade in spices, which amounted in 1906 to 11,008,000 pounds, not including cutch and turmeric, which although used in India as spices are exported mainly for industrial purposes. Cutch is used for tanning and dyeing, but is also used as a drug, especially in America. In India it is used as an ingredient in the mixture of betel nut, which the natives are so fond of chewing. Turmeric is a handsome herbaceous plant that is cultivated all over India, its yellowish tubers producing a yellow powder used by natives to some extent as a condiment, but which is most valuable as a chemical to detect the presence of alkalies. Cutch is produced largely in Bengal, Bombay, Madras Province, and in Burma, and from which places the average annual exports amount to 221,986 pounds, valued at $1,111,335. Of this the United States takes on an average about 70,000 pounds.

CARDAMOM AND THE BETEL NUT.

Both the greater and lesser cardamom, which are natives of Nepal, grow all over India where cultivated, and are much used in the preparation of sweetmeats by the natives on account of their cheapness. They are also used as ingredients of the pan or betel leaf preparation. Lesser cardamom grows wild in the mountains of southern India. It is considered as the most valuable of all the Indian condiments. The natives use it for flavoring purposes, and also for pan.

The betel nut is also called areca, and, while a native of China, it grows throughout tropical India. It is indispensable in the preparation of pan, and is probably the most popular nut with the native that grows in India. Everywhere on streets of India's cities one will see women squatted down mixing betel nut or pan, and offering it for sale to the passers by. The mixture consists of betel nut, cinnamon, cardamom, and catechu in certain proportions wrapped up in a leaf of the betel tree. The " wad " is put into the mouth by the natives much as the old-time tobacco chewer put the " cud " into his mouth, and chews it much in the same way. The effect is stimulating to the nerves, and stains the lips and tongue a deep blood red. The quantity of betel nuts imported into India on an average from East Africa, Mauritius, Ceylon, Straits Settlements, and other countries, dealers here to compete with Roumanian and Russian flour. [The average annually about 39,520,000 pounds, valued at $1,235,655, while the export amounts to only 91,700 pounds, valued at $12,350. This shows what a tremendous consumption exists in India of betel nut; for it must be remembered that India produces much more than she imports of this article.

The leaves of the piper betel mixed with catechu, areca nut, and lime, and flavored with spices makes the pan so generally used. The trade in the leaf is entirely local.

The seeds of the various forms of mustard, rape, and cole are used in India as condiments and grow in great abundance. Onions and garlic and celery are produced to a large extent.

CHILLIES, CARAWAY, ROXBURGHIANUM, CLOVES, ETC.

The chillie, or capsicum, of several varieties are natives of America, but are grown all over India, and while not used as generally as in Mexico are consumed in large quantities by the natives of India. The caraway plant grows wild in Kashmir, now really a part of India, and is cultivated as a cold season crop on the plains. The true Bishop's weed is cultivated extensively in Bengal, Punjab, and south Deccan. The Roxburghianum plant, which resembles parsley, is eaten much in the same way as parsley, and the seed is used in flavoring curry. Cloves are cultivated mainly in south India, which supplies the market or bazaars of northern India, together with some importations from Ceylon.

There are probably three species of cinnamon produced in India and Ceylon. The cocoanut grows abundantly in India, principally in the southern part, along the coast. Coriander is a much prized condiment in India, and is almost indispensable in making a first-class curry. It is cultivated throughout India.

SAFFRON, CUMIN, GINGER, TURMERIC, CRUCIFERÆ, MINTS, AND NUTMEGS.

Saffron is grown in India to a limited extent, and is used in coloring and flavoring food. Cumin is used as spice with which to flavor curry, and is one of the oldest spices known to the natives of the country. It is most successfully cultivated in the provinces of Rajputana and the Punjab, in northern central India, and in the Deccan, southern India. Mango ginger grows wild in Bengal, India, and in the Himalaya Mountains as high up as 6,000 feet. It is used as a condiment and also as a vegetable. The turmeric is a native of south Asia, and is grown all over India for its rhizome, or root stocks, which, when dried and reduced to a powder, is used as a spice in curries.

Cruciferæ is cultivated all over north and central India, and on the western Himalaya Mountains as high up as 10,000 feet. The seeds are crushed and the oil extracted therefrom, and the powder of the seed is used as a condiment. The oil is the most valuable part of the cruciferæ. Mint, called sometimes the marsh mint, grows abundantly in the western Himalayas, and is eaten by the natives as a condiment. Peppermint grows well when it receives proper care. Spearmint grows all over the plains of India, and is much used in curries and other forms of food. Nutmeg and mace are cultivated in south India. In parts of India there is a nut 1¼ inches long and a half inch thick, which is much like the true nutmeg, and is offered for sale as such, but it is not so good.

PEPPER, MISCELLANEOUS ARTICLES, AND EXPORTATIONS.

Long pepper is a perennial shrub of eastern India, Nepal, and east Bengal and Ceylon. The fruit of this shrub is dried and used as a spice. The black pepper, which is a climber, also grows well in India. The berries of the black pepper are eaten as a condiment in curry, and in powder form is the black table pepper of the West.

The following spices and condiments are also grown in India, either as indigenous or introduced plants: Fennel, hops, black cumin, sweet basil (the seeds and leaves of sweet basil are eaten by the natives of India as a cooling condiment); dill, used in curry; anise, introduced from Persia by the Mohammedans and is used lavishly in India "sweets;" cubebs, a native of Java and Sumatra; fenugreek, which grows wild in Kashmir and the Punjab, and cultivated generally on the plains of India; scitaminea, native of India, and used as a spice; ginger, cultivated in India for its root, but not known in its wild state; spikenard, which grows all over India, and is used as a medicine for coughs, and the leaves for food, usually known as "greens."

Exports of spices from India for 1906–7 dropped from $3,000,000 in value in 1905–6 to $2,000,000 in 1906–7, a decline of 33.69 per cent, which is stated to be due principally to the contraction in the exports of pepper, which fell off 9,499,000 pounds, valued at $1,000,000. The export of ginger declined in value $95,000. This article, however, brought a higher price during the last year, selling on an average at nearly 5 cents per pound. The export of chillies increased during the year 22.27 per cent in quantity and 12.34 per cent in value.

COMESTIBLES FOR CHINA.

MARKET FOR AMERICAN TINNED AND PRESERVED COMMODITIES.

Vice-Consul Ernest Vollmer, writing from Tsingtau, makes the following suggestions for the extension of American trade in tinned and preserved foodstuffs in China:

Fresh meats being unobtainable outside a few of the large ports, a great quantity of preserved meats is naturally consumed. Large assortments of these goods are kept by dealers, the stocks being good and fresh, as a rule, because the articles are used too fast to permit their getting stale. The packing and preserving of meats being an American specialty, our goods ought to be represented much more than they are. Europe now has comparatively a complete monopoly.

Nearly everything on the market here is in tins. The American goods in glass look far better. The fact that the food is visible and looks tasty is the best sort of an advertisement, and these goods would undoubtedly outsell those packed in tins.

Especially where there are large numbers of Germans, as at Tsingtau, jellied meats, such as jellied pigs' feet, sell well. Lambs' tongues, smoked chipped beef, sliced bacon, and all such articles put up in glass would sell readily. Pork and beans is an article hardly known here, but the people would undoubtedly like it once they were induced to try it. In the meat-extract line there is only one German product to be had. The cost of tinned soups is far ahead of that in America, the cheapest kind retailing at 25 cents. A good market ought to be readily obtained here at a 50 per cent advance, for small cans sold in America for 10 cents, if put up in the same tasty style. Sausages of German make are generally ahead of the American goods, and probably nothing could be done in that line, as German manufacturers have the country pretty well covered. Cheaper goods might, however, be furnished the Chinese.

FISH AND OTHER MARINE PRODUCTS.

Fish, shell fish, and other marine products form probably the great bulk of the animal food for the Asiatic population, while Europeans here consume considerable of the same articles in a preserved or tinned state. Many of the products of American fisheries should be adaptable to this market, but their present sale is rather limited. Salmon from the Pacific coast is to be had, even the natives using the cheaper grades, but its sale is not as large nor its use so universal as elsewhere. Soused mackerel, and the same fish broiled and put up in mustard, spices, or tomato sauce, are already popular, but the best known American brands are not to be found. Salmon bellies in salt mackerel in barrels are not kept here. That these goods would stand the climate and that the people would like them seems to be assured by the quantities of Holland herring which find their way to China in bulk. Minced clams and abalones, clam chowder, and oysters also could be profitably introduced. Any of the shell and other fish of our coasts disregarded by Americans owing to their inferior quality, would, if dried and made cheap enough, find a ready sale in the Orient. The sardines of Pacific waters are another possibility for this market. The carp, which infest many of our waters, but are too bony for our people to eat, would be taken as a delicacy in this part of the world.

VEGETABLES AND CONDIMENTS.

Great quantities of vegetables tinned abroad are consumed here, for, although the Chinese product tastes good and looks fine, it is very unwholesome, owing to the insanitary conditions under which it is raised. Canned vegetables are found in great variety in stores catering to European trade, but one peculiarity, at least in Tsingtau, is that tomatoes and sugar corn are not handled. These two canned vegetables most used in America are eaten fresh in great quantities by the natives and also by foreigners when they are obtainable, and it is known how they were grown; consequently it would seem they ought to be a very acceptable product to the trade when properly conserved. American goods are fairly well represented, and many of them, such as string beans, sugar peas, and asparagus, are the favorites, but there are so many American goods not represented here, which owing to their quality and the neatness and taste with which they are put up could hold their own against any competitors, that an effort should be made to increase the business along this line.

The consumption of pickles of all sorts, catsup, Worcestershire sauce, and similar condiments is very large, but the goods are all English or imitations of the English brands. With the superior quality of American pickles and tomato catsup a little effort on the part of the manufacturers should insure the goods the place on the market which they deserve. There is also a demand for articles like Saratoga chips, while split peas, dried beans, lentils, pearl barley, and similar vegetable products always sell to a limited extent.

On the whole, conditions of life throughout this country make toward such a large and steady demand for tinned goods of every variety that the American manufacturers can not well afford to overlook this field.

[Current price lists of the above lines of tinned and preserved products on sale in Tsingtau are on file in the Bureau of Manufactures.]

NATIVE PRESERVED PRODUCTS.

VEGETABLES, HAMS, AND EGGS PICKLED FOR FUTURE USE.

Frederick D. Cloud, student interpreter at the Shanghai consulate-general, writes concerning native preserved vegetables and meats in China:

Turnips, several varieties of cabbage, and seaweed are often prepared for winter use by giving them a coat of salt and drying in the sun. A vegetable resembling cabbage is sometimes dried in the sun without salt and put away in shallow baskets until ready for use. They have a way also of making a kind of sauerkraut, very much as Americans do. The treatment of certain vegetables in this way is a common practice.

The best native hams come from a region known as the Kinhua district, in Chekiang Province. The hams when dressed and ready for curing are carefully placed into vats. A kind of pickle is then prepared of salt, water, and a sauce from the soy bean (the bean from which Worcestershire sauce is made), which is poured over the fresh hams. After the hams have been in the pickle a sufficient length of time they are taken out and hung up to dry, and occasionally, but not often, smoked, when they are ready for the market. Sometimes a little nitrate of potash is also added to help preserve them, but this addition is the exception and not the rule. It is reported that in the south hams are cured by means of an alkaline earth and common salt, but so far as can be learned no earth of any kind is employed in the middle and northern provinces.

The famous pickled eggs of China are preserved with a pickle made of common mud, salt, saltpeter, and soy-bean sauce, all mixed together. The eggs are coated with a plaster of this mixture and laid away until "ripe," when they are ready for the table. Prepared in this way they will keep several months.

BRAZILIAN MEAT IMPORTS.

COUNTRIES OF ORIGIN AND PURCHASES AT EACH PORT.

Consul A. R. Morawetz, of Bahia, gives the following statistics of the meat imports for the whole of Brazil, in kilos of 2.2 pounds, during the year 1906, together with place of origin and destination:

ORIGIN.

Article and country.	Kilos.	Article and country.	Kilos.
Bacon:		Lard—Continued.	
United States	644,714	Other countries	35,000
Other countries	40,364	Preserved meats and extracts:	
Hams:		United States	26,717
Great Britain	405,245	Italy	53,540
Other countries	66,046	Portugal	207,701
Lard:		Other countries	92,400
United States	2,532,000		

DESTINATION.

Article and port.	Kilos.	Article and port.	Kilos.
Bacon:		Lard:	
Manaos	119,239	Manaos	281,000
Para	301,989	Para	623,000
Pernambuco	35,925	Bahia	141,000
Rio de Janeiro	30,303	Rio de Janeiro	999,000
Santos	192,886	Santos	377,000
Other ports	4,736	Other ports	146,000
Hams:		Preserved meats and extracts:	
Para	36,181	Manaos	67,931
Rio de Janeiro	244,863	Para	69,220
Santos	118,149	Rio de Janeiro	173,615
Other ports	72,098	Santos	45,075
		Other ports	24,517

OLEAGINOUS PRODUCTS.

OLIVE-OIL TRADE.

ASIATIC TURKEY.

EXTENDING CULTURE AROUND ALEXANDRETTA AND ANTIOCH.

Consul Jesse B. Jackson, writing from Alexandretta, furnishes the following information relative to the growing of olives in that part of Asiatic Turkey:

The olive tree grows wild in great abundance on many of the hills and mountains in the Aleppo vilayet or province, and especially between Alexandretta and Antioch. Orchards are planted and grow well, chiefly in the environs of the cities of Antioch, Harem, Armenaz, Salkin, Kossier, Killis, Kurd-Dagh, Aleppo, Urfa, and Nazib. The olive does not require a rich soil, as is evidenced by the fact that during the last twelve or fifteen years especially large orchards have been planted in unfertile and almost barren fields unfit for the culture of cereals. At present there is a rather slow but gradual increase in the establishment of olive orchards throughout the consular district.

The months of March and November are said to be the best in which to set out the trees. When an olive tree becomes old a knot grows on the trunk just above the ground, having "eyes" similar to those on a potato. These knots are carefully removed, usually from wild trees, and placed or planted with the eyes up in pits 10 or 12 yards apart, 28 or 30 inches deep, and having a diameter of 16 or 18 inches. Usually a little manure is put around them when they are covered over with dirt, leaving an opening 2 or 3 inches wide leading down nearly to the knot, so the shoots will grow up through, also to permit the rain water to run in. Unless it rains sufficiently within a week or so to moisten the ground, they are watered weekly until the rains come.

Another method is to transplant small wild trees, also portions of the root of old trees having sprouts, in both cases observing the same rules as previously mentioned. Frequently the new plants fail to show much sign of life until the second year. In the spring of the first or second year, depending upon the rapidity of the growth, if the original was not of good quality the most promising sprout is grafted and the balance is cut away.

CULTIVATION AND PRUNING—REGULARITY OF CROP.

The olive tree requires about seven years' growth before beginning to bear profitably. It is never irrigated, receiving no water except from the winter and spring rains. In some parts of Syria grapevines are planted between the trees when first set out and are removed after the trees begin to bear well. The ground is cultivated by being frequently plowed both ways, which is considered essential to rapid and thrifty growth, but no fertilizer is ever used.

The pruning is done by cutting away the dried and poor boughs not susceptible of bearing, the shape of the tree never being a matter of consideration. The length of life of the olive tree depends to a certain extent upon the care that it receives, but it is very hardy, and it is claimed that when properly cultivated and cared for it will live for centuries.

As to the regularity of crops one year with another, there is no absolute rule. For three successive years the yield may be heavy, but it frequently occurs that a good crop is followed by a very poor one or comparatively nothing. At times short crops are caused by frosts coming in March and April, when the trees are in bloom. Continuous cold weather during the winter season, registering from 14° to 3° F. above zero, has a tendency to dry up the tree, and during the month of August, when the heat happens to be excessive, the fruit dries up and falls off. Therefore it follows that a temperate climate is the most suitable for the cultivation of the olive tree.

The fruit is gathered during the latter part of November by lightly beating the boughs of the trees with a stick, which must be flexible in order not to injure the trees, and usually a large blanket is held underneath to prevent the fruit from being bruised on the ground.

PRODUCTION AND DISPOSITION OF CROP.

There are no statistics whatever from which can be secured any idea of the number of acres of olive orchards or the number of trees within the vilayet, or in this consular district. Very unreliable statistics give the amount of oil produced in the vilayet during a good year at 8,750,000 okes (oke=2½ pounds), equal to 10,937 tons, valued at 4⅘ piasters per oke, making a total of 42,000,000 piasters, equal to $1,455,301. The market price at Aleppo regulates the price throughout the vilayet. The total amount of oil produced may be divided into two parts about equal in value and quantity, the one for culinary purposes and the other for soap manufacturing.

In good years the output of oil is about 25 per cent of the quantity of olives used, but in bad years only about 12½ per cent. The method of pressing the oil from the olives is very primitive, and it is doubtful if there is a modern press in all the vilayet, of an area of 30,340 square miles. The best quality of oil is produced in Killis and vicinity, where, it is stated, there grows as fine a quality or variety of the olive tree as is produced anywhere, and with a modern pressing and refining process as excellent a grade of oil could likely be obtained as that of Lucca.

The prices paid to growers for oil olives vary according to the quality, and average from 1¾ to 3½ piasters (piaster=3.4645 cents) per ratole of 2½ okes (oke=2½ pounds). The olives are sold by measure, the box, weighing about 8 ratoles, or 20 okes, selling at from 9 to 12 piasters (31 to 41½ cents).

The quantity of green olives pickled is insignificant, and limited to a small proportion that is prepared by certain families for their own use and the local trade. After the oil is extracted from the olives the pulp is sold to soap manufacturers for fuel purposes.

The workmen employed in gathering the crop are paid in kind, or, in other words, they pick on shares. When a proprietor has finished gathering his olives, he estimates the number of days the men have worked, and, according to the importance of the yield, every four or six days of work is paid for with a box (20 okes) of olives. When laborers are paid in money they are compensated at from 2½ to 4½ piasters(8⅔ to 15⅗ cents) per day.

ITALY.

AVERAGE YIELD OF OIL AND HOW ORCHARDS ARE MANAGED.

Consul-General Hector de Castro, of Rome, contributes the following review of the olive and olive-oil industry of Italy:

The approximate number of acres devoted to olives in Italy is 2,630,000. The oldest orchards have existed for centuries. Only a very small proportion of the average olive crop is pickled green or ripe, while it is estimated that 1,250,000 tons are gathered for producing oil, of which the average annual total production in the last ten years was 56,000,000 gallons. The average price for oil at the mill is 21 cents per quart for first quality, 18 cents for second, and 15 cents for third.

The average cost of picking the fruit is $3 to $5 per ton. The growers hardly ever buy or sell olives, finding it more profitable to manufacture them into oil. The average value for the fruit for crushing might be stated at $45 per ton. Olives for pickling would command 25 per cent more.

CULTURAL METHODS.

When olive trees are to be planted holes 3 feet deep and 3 feet in diameter are dug at a distance of some 36 feet apart. The bottom of the holes is lined with stones or "corduroy," in order to facilitate the drainage. A month later the excavated earth is returned to the holes and in the springtime the young olive shoots are planted at a depth of about 10 inches.

The olive groves must, above all, be well exposed to the sun and preferably on sloping ground. The soil should be stony and calcareous. The fruit and oil produced in such soil are much superior to the product of trees planted on level or low lands. Olive trees need, and should have, but very little moisture; hence rocky soil and sloping land are best adapted for keeping the roots in good condition.

The ground is enriched by ordinary fertilizers or by using the pumice or residue of the olive-oil press. The trees must be trimmed carefully every year, avoiding as much as possible the cutting of large limbs, which causes great injury by rotting the trunk. It is important to allow the tree to retain all branches that are apt to develop easily and not to allow such branches to grow in height. It is best to help the tree to spread and to trim it in cup-like shape—that is, to prune it in its center—so that the air and the sun will circulate freely among the branches. In case the trunk or any main branches of the tree show decay, it is most important to treat it as the surgeon would a gangrened limb—i. e., cut out and dig into the rotten parts deeply, thoroughly cleaning the wound and keeping it so until healed. All the shoots at the bottom of the tree and on the lower parts of the trunk are suppressed so as to insure and preserve its full vigor for the upper limbs. The same may be said for the shoots sprouting out in the center of the tree, which must be kept clear.

Every year toward springtime the soil around the tree must be dug up or plowed, leaving about 3 feet or more untouched around the base of the tree. This space may be lessened or increased according to the size of the tree.

GATHERING AND YIELD.

The gathering of the crop begins in the middle of November. Some growers wait till the fruit falls upon the ground, but many employ men and women who use ladders 7 or 8 feet high, and baskets to collect all the olives; it is absolutely forbidden to shake or beat the tree to make the fruit drop, that method injuring both the tree and the olive. Such fruit as may accidentally drop on the ground is gathered by boys and set aside for separate treatment, the oil produced therefrom being of second quality.

As an example, one olive orchard near Rome, where the foregoing information was obtained, contains 12,000 trees of all sizes and age; in fifteen years they have produced 78,568 "scorzi" of olives, or an annual average of 5,237½ scorzi, representing in weight and round numbers 184,000 pounds of olives. The aggregate amount of oil extracted in the fifteen years was 214,069 quarts, or an annual average of 14,271 quarts, equal to about 2¾ quarts per 35 pounds of olives. The highest annual production of olives was 9,628 scorzi, or 337,000 pounds, and the lowest 1,209 scorzi, or 42,300 pounds.

Regarding the failure of some trees which bear less fruit or less oil-producing fruit than others in the same orchard and the same soil, it may be that all the trees are not of the same species or that some were not properly planted, or that the ground was not equally well prepared. It must always be borne in mind that moisture is the enemy of the olive tree, and that the greatest attention must be paid to drainage. It is also advised to graft the defective trees with scions taken from stronger and better bearing ones.

SPAIN.

OLIVE GROWING REGARDED AS A HAPHAZARD CROP BY THE FARMERS.

Regarding the conditions of cultivation of olives and production of olive oil in that section of Spain, Consul Charles S. Winans writes from Valencia:

The area planted in olives in this consular district, embracing the provinces of Valencia, Castellen-de-la-Plana, Teruel, Alicante, and Murcia, is 251,000 acres. The average crop in recent years has been 36,800 tons of olives, of which there are pickled, green and ripe (about half of each), 1,300 tons. The oil produced from the remaining 35,500 tons amounts to 7,100 tons, or 20 per cent of the weight of olives milled. The price of oil olives delivered at the mill is 55 to 65 cents per arroba of 25 pounds. The price of pickling olives, which in this district are a smaller variety, and consequently cost more to pick, is 65 to 70 cents an arroba. Wages of olive pickers are 20 to 25 cents a day, during which they pick about 130 pounds, if the fruit is fairly abundant and of average size, but only 80 to 100 pounds in years of partial crop failure and small fruit.

From 20 to 24 per cent of the weight of olives crushed is considered a fair yield of oil. The oil of this district, and particularly that produced on the slopes of the famous Sierra de Espadan, from which it derives its name, is of very fine quality and competes with the best Nice and Bari olive oils.

To thoroughly understand the conditions obtaining here in olive farming, it is necessary to note that the crop is considered the most precarious grown in this country, exposed as it is to hailstorms and long, persistent droughts of three and even four months' duration, under a burning sun, in an atmosphere with only 12 to 20 per cent of moisture. During these periods of drought the trees frequently shed a large percentage of their fruit, which is practically worthless if it falls before August, but, if later, is milled and produces a small quantity of inferior oil mostly employed for industrial purposes. There are no farmers cultivating olives alone, and no districts devoted exclusively to olive plantations with trees arranged in symmetrical rows, carefully pruned, manured, and cultivated. The olive is planted here irregularly on the lower slopes of bare mountains and mountain recesses, mostly in dry, waterless regions in which nothing else could be profitably farmed, mingled with or slightly above the line of the poorest grape vines and carob beans, scarcely any expense being incurred in their cultivation.

Owing to the great depreciation in the wine trade in recent years, unproductive vines are sometimes replaced by olive trees even in fairly rich soils, but in general farmers prefer any other crop to the haphazard olive. With regard to the age of olive orchards in this section, there are many with authentic histories of one hundred to two hundred years, and a few which were probably bearing fruit when Columbus discovered America.

CHILE.

AN EXCELLENT MARKET FOR THE CALIFORNIA PRODUCT.

Consul A. A. Winslow, of Valparaiso, reports that there is a large demand in Chile for olive oil of all grades and submits the trade details:

The Chileno is a great lover of salads prepared with an abundance of olive oil. The imports of this article in 1906 were $646,285, against $924,641 for 1905 and $652,275 for 1904. The United States shows a handsome gain for 1906, supplying $155,522 worth, against $94,206 for 1905 and $27,000 for 1904; while Italy in 1906 furnished only $345,483 worth, against $596,500 for 1905 and $518,385 for 1904. In 1906 Germany and France took third and fourth places, respectively. The foregoing figures are given in United States currency.

Chile has a pure-food law that prohibits adulterations, and it is unlawful to sell food products under misrepresentation; but it is generally understood that cotton-seed oil is mixed with the cheaper grades of olive oil on the market here.

Most of the olive oil from Italy comes in 2-pound tin cans, while that from France, which sends the best oil, is generally put up in glass bottles, packed in cases of one and two dozen bottles each, according to the size of the bottles. The American olive oil is well received here, and the trade should be more thoroughly worked to overcome the strong footing held by the European importer after years of effort.

COTTON OIL IN BRAZIL.

POPULAR AS FOOD—IMPORTATION COMPARED WITH OLIVE OIL.

There is a first-class market for cotton-seed oil in Brazil at the present time, reports Consul-General G. E. Anderson, of Rio de Janeiro, who says it is a market that is growing rapidly and promises much. The consul-general continues:

How much the continued development of the cotton-growing industry in the country is to interfere with this trade remains to be seen, but the indications are that the demand for olive oil and cotton-seed oil will increase in even greater proportion than the home supply of cotton-seed products. The uses of cotton-seed oil are various, corresponding with those common in the United States. Oils are popular in foods among the European-born population of the country, especially among the Italians of Sao Paulo, and the American product seems to be preferred.

Of olive oil the imports into Brazil in 1906 aggregated 2,399 metric tons (metric ton=2,204.6 pounds), valued at the exchange equivalent of about $812,225. Of this amount, representing a decrease of about 8 per cent as compared with the imports of the year previous, Portugal furnished about half, Italy about a quarter, and Spain and France practically all of the balance. So far as I can learn this oil was almost altogether the pure olive product, though it is possible that there was some mixing done and some of the imports were of the mixed class. The retail price of the article is high, owing both to the high duty and to general business conditions in Brazil, so that the consumption of pure olive oil is not great, comparatively, when the fondness of the people for oil products is considered.

The imports of cotton-seed oil as such are not differentiated in the customs returns from other vegetable oils, but they were about $410,000, and of this the United States sent over 80 per cent. The local importers of the American product express themselves as very well satisfied with the nature of their trade and its prospects. The use of cotton-seed oil, of course, is much more extensive than the imports measure. In 1905 Brazil exported considerable cotton-seed oil, but sent none abroad last year, the home market taking at a good price all that was offered. As between olive oil and cotton-seed oil, conditions generally, including tariff rates, are decidedly in favor of the cotton-seed product. A local importer of American cotton-seed oil has prepared a statement of the duties on the two products now actually charged, as follows:

DUTIES COLLECTED ON COTTON-SEED AND OLIVE OIL.

100 barrels of cotton-seed oil = 5,000 gallons = 17,184 kilos net, at 200 reis per kilo		3,436$800
Charge for statistics		2$000
		3,438$800
Of this 50 per cent gold equals	1, 718$400 and paper,	1,720$400
Add 2 per cent for port works	137$470	
	1, 855$870	
1,855$870 gold equals £208 15s. 8d., which, at £15 1s. 16d., is		3,326$670
Total duty on 5,000 gallons		5,047$070
Duties per gallon, reis 1$009, or about 30.25 cents American gold.		
100 barrels of olive oil = 5,000 gallons = 17,184 kilos; 17,184 kilos, at 400 reis per kilo		6,873$600
Charge for statistics		2$000
		6,875$600
Of reis 6,875$600 there is 35 per cent in gold, which amounts to		2,406$110
Add 2 per cent port charges		274$940
(Brazilian gold)		2,681$050
Which equals £301 12s. 4d., and, at £15 1s. 16d., equals		4,805$840
Add 65 per cent of 6,875$600 payable in paper		4,469$490
Total duties on 5,000 gallons		9,275$330
Duty per gallon, reis 1$855, or 55.7 cents American gold.		

In the above calculations no difference in the weight of olive oil and cotton-seed oil was noted, the difference, if any, being very slight. Cotton-seed oil at present is sold surprisingly close to the figures for olive oil, and the advantage of handling it is evident. The olive oil is handled very largely in the original packages as shipped from Portugal and Italy and common in the United States. The cotton-seed oil is imported largely in casks and bottled or tinned here. The tariff advantage of this plan is great, the tariff on the article in casks being net and on that in packages gross. All shipments are admitted only after careful Government analysis and investigation, both more or less expensive.

American exporters desiring to get into the market here can do so to advantage only after taking the matter up carefully with Brazilian importers and being prepared to suit the nature and conditions of their shipments to the Brazilian market. This is true of all food products imported into Brazil. Only those familiar with local conditions, local requirements, and the inspection laws of Brazil can advantageously import. Quotations based upon cost f. o. b. American port will probably be found the most acceptable.

COCOANUT OIL IN INDIA.

PRIMITIVE METHODS OF EXTRACTING AND EXTENSIVE USE.

With regard to the manufacture of cocoanut oil in India and the possible use of modern machinery in the industry, Consul-General William H. Michael writes from Calcutta that while much of the oil is manufactured there the apparatus in use is rather primitive. He thus describes the processes:

The different methods in use among the natives consist in removing the kernels from the shells, drying, and then subjecting them to pressure in a rude mill that is turned by two bullocks. In some cases the kernel is boiled in water for a short time. It is then pounded in a mortar and the pulp thus produced is pressed until the oil is all extracted. The milk that exudes from the kernel during the boiling process rises to the top and is skimmed off and boiled over a slow fire. Fourteen average-sized cocoanuts manipulated in this way will make 2 quarts of the oil. The best oil is obtained by grating the kernel and exposing the mass in a hollow vessel to the heat of the sun. The oil drips away through grooves at the bottom of the vessel and is caught in jars.

The Malabar method of making oil is by dividing the kernel into two equal parts and placing these on split bamboo shelves, which are open at the bottom to admit the heat from a charcoal fire. After three days of exposure to this heat they are placed on mats exposed to the intense rays of the sun until the cocoanut meat is thoroughly dried, when it is put into the press. This mill is similar in shape to the mortar and pestle. The pestle, so to speak, is turned round and round by a pair of bullocks, which are hitched to a sweep generally about 18 feet long. The bullocks turn the sweep completely around three times in a minute. The mortar or chekoe will hold about 50 pounds of the dried cocoanut, and it is considered a good day's work to grind out four charges. It takes two persons to operate one of these mortars. The oil is removed from the mortar by dipping a cloth into the oily mass and then squeezing or wringing it out into a vessel.

Cocoanut oil when fresh has a pleasant flavor, and is used in many ways by the natives. They use it as an unguent on their bodies after bathing, for oiling the hair, as a lamp oil, and in the manufacture of soap. The Indian maiden knows how to give the odor of flowers to the oil used at her toilet by immersing the flowers in the oil for days. It is also used in making pomatums for the toilet, in the manufacture of candles, in cooking, and for medicines.

I should think that modern machinery for extracting the oil, if not too high priced, would find a market in India. There is need of such machinery for the proper development of the industry.

MINERAL OIL.

ITALY.

AMERICAN SHIPMENTS—REDUCED DUTY ENCOURAGES PURCHASES.

Vice-Consul Homer M. Byington, of Naples, reports that one of the principal imports from the United States into Italy is petroleum, the import trade in which is practically monopolized by the "Societá Italo-Americana Pel Petrolio," having headquarters in Venice and large tank stations and offices in Naples, Genoa, Messina, and Savona. The vice-consul continues:

The society is incorporated under the laws of Italy with a capital of 5,000,000 lire ($965,000), one-half of which is American and the other half is distributed between Germans and Italians. The society owns and operates three tank steamers under the German flag, each of about 4,000 tons, which make the voyage from Atlantic ports in from twenty-three to twenty-five days and deliver to the tank stations mentioned.

The greater part of the oil imported is from the Standard Oil Company, and during the year 1906 the importations of the Naples branch amounted to about $202,650, while oil to the value of $59,900 was reexported to Levantine ports. On April 1, 1907, a reduction in the duty was made from 48 lire ($9.26) to 24 lire ($4.63) per quintal (220.46 pounds), and since that date the importations have increased at the rate of 35 per cent over the same period of 1906.

JAPAN.

INCREASE IN HOME OUTPUT.

Consul-General James W. Ragsdale, of Tientsin, China, forwards the following report upon the production of kerosene oil in Japan, as taken from a Japanese newspaper:

> The output of kerosene oil in Japan is increasing year after year. Last year it was 1,300,000 koku [koku=39.7 gallons] (Formosa excluded), so that Japan now occupies the seventh place in the list of the world's kerosene-producing countries. At no distant date the home product will overtake the total amount of imported oil from America and Russia, which stands at 1,460,000 koku. Meanwhile, remarkable progress has been made in the kerosene-refining industry of this country, so that our home oil now stands on an almost equal footing with that of America or Russia in quality, though the market price is still governed by these foreign oils, owing to the fact that there is not a small quantity of bad, impure oil turned out by some petty factories in the provinces. Investigation showed that Korea and Manchuria are not so promising as a kerosene field as was generally believed, while bright prospects are expected in Hokkaido, and especially in Formosa, where highly promising petroleum veins lie in many places.

OIL FATS FOR NORWAY.

DIRECT TRADE ADVISED IN COTTON-SEED PRODUCTS AND LARD.

Consul F. S. S. Johnson, of Bergen, calls attention to the indirect sales of cotton-seed oil and neutral and compound lard from America to factories at that Norwegian city by European commission houses, suggesting the doing away of the middleman and of transacting business direct with the local importers. He writes:

For the purpose of bringing exporters and manufacturers of the United States into direct communication with consumers of certain articles employed in the making of butterine, I attach the names of the factories at Bergen using cotton-seed oil, neutral lard, and lard compound. Orders for these goods are now made through European commission houses whose charges for making sales are added to the cost of these goods.

Recently 1,200 barrels of fine cotton-seed oil, also a like quantity of neutral and compound lards, were landed at this port. A market has thus been created at Bergen for these goods and the demand is on the increase. There is no reason for the employment of a middleman when business could be done direct with the consumers and orders sent direct to our manufacturers and exporters. The names of the factories at Bergen are: Smørfabriken Bjørgvin; Smørfabriken Flora af 1903; Smørfabriken Fram; Smørfabriken Hardanger; Smørfabriken Idun; Smørfabriken Orion; Smørfabriken Record; Smørfabriken Viking; Smørfabriken Ørnen.

ALCOHOLIC ARTICLES.

PULQUE AND MESCAL.

THE NATIONAL DRINKS IN THE MEXICAN TABLE-LAND REGION.

Consul-General A. L. M. Gottschalk, of Mexico City, reports that among the numerous requests received for information as to native Mexican products are a number concerning the national liquors pulque and mescal (often called tequila), which leads him to supply the following information:

Many of these requests indicate a curious misapprehension as to the supposed medicinal value of these liquors, the mescal being credited with stomachic properties which it does not, in the opinion of the best local physicians, possess, and the pulque being supposed to be the " only sure cure " for diabetic infirmities and kidney diseases generally. It is said that some American newspapers have spread such reports, and an elderly gentleman from one of our small western towns not long ago came to Mexico in the last stages of illness to find the " pulque institute " (which has never existed here), the man dying a few days later at a hospital.

Another class of inquiries received on the same subject is from persons in whose home neighborhoods in the United States the agave grows, and who ask for the recipe or process of manufacture, in order, presumably, to make and dispose of the two products commercially. The following notes may therefore be of interest to a certain number of persons in the United States:

Pulque is the fermented juice of the American aloe or agave plant. It is called locally maguey and is one of the family commonly known in the United States as " century " plants. Its use in Mexico dates from the remotest times and is mentioned by the old chroniclers, who found it in use among the Aztecs and kindred tribes, not only as a common beverage, but as a sacrificial drink, as was the case with the chicha, or corn beer, of the Incas of Peru. Its invention is attributed by Mexican legend to a more or less mythical queen, Xochitl by name.

SHOULD BE USED IN FRESH STATE—PLANTATION METHODS.

The liquor itself is a thin, watery, and slightly viscous fluid of a sour taste, resembling that of buttermilk, until excessive fermentation turns it into a thick, ropy, decomposed sort of sirup, which is offensive to taste and smell, but which, it is said, the real pulque drinker enjoys best. There is national legislation forbidding the sale of pulque in this advanced stage of fermentation, when its intoxicating qualities have grown markedly stronger. Taken in the earlier stages of manufacture—that is, during the first twenty-four hours of fermentation or shortly after—the liquor is not unpalatable, certainly thirst quenching, and only mildly intoxicating.

The process of manufacture, which is invariably carried on at the plantation and not in breweries, has not varied in centuries, and is briefly as follows:

The plants are set out in rows and need little or no care. If the ground be properly plowed and manured, the plant may reach the proper age for tapping at from four to five years; otherwise seven. Whenever this time may have come (and it is easily determined by field hands of experience) the "heart" or central leaves of the plant is cut out and the fleshy truncated portion is rasped or scraped into a sort of hollow cup. The juices which collect in this hollow are siphoned out daily by means of a primitive siphon usually made of a gourd and a cow's horn, and every few days the hollow is scraped afresh to foster the exudation of the juices. This process is carried on for sometimes as long as one hundred and twenty days, when the plant dies. It is never, of course, suffered to "mast" or run to seed, but care is taken to propagate it by cutting away and replanting the ratoons which spring up from its root. A plant under ordinary conditions is made to yield from 2 quarts to a gallon per day, and the total gross return of each plant to the hacendado has been estimated at from 12 to 14 pesos (peso=50 cents). This forms no inconsiderable return when one realizes that the plant demands practically no care, is not dependent (at least in Mexico) upon rainfall or other variable climatic conditions, and that many pulque haciendas upon the Mexican table-land contain from 20,000 to 30,000 plants.

PREPARATION AND MARKETING.

The juices thus obtained are usually carried in from the fields in small barrels slung upon donkeys. The liquor is then strained in a primitive sieve of fiber and placed in vats made usually of bull hide, which is said to impart a particular flavor to the brew. To the liquor, now known as aguamiel (honey water), there are added scrapings of the pulp of the plant itself, which furnish the desired ferment, and the fermentation, which begins almost at once, is allowed to proceed for a period of twelve hours, after which it is again strained and is ready for distribution and sale. The pulque used for strictly local consumption, along the roads and at small wayside drinking booths, is invariably poured into skins (of pigs, sheep, or goats), the animal having been most carefully flayed and the skins being shorn of their hair or wool and then turned inside out and calked, but not tanned. This preparation of the pulque skins is in itself a small industry, and is carried on by establishments known as colambrerías. In many places these are given protection by ordinances prohibiting the shipment of pulque in any other sort of vessel. Naturally when the pulque must be shipped long distances it is placed in native-made barrels and sent by train, and it is one of the sights of early morning in the City of Mexico to see the pulque trains coming in, sometimes from great distances. Among the lower classes the pulque of certain haciendas is said to find decided preference to others, and dealers advertise their product by the name of its hacienda, much as dealers in the United States advertise the breweries that supply their beers.

Like American brewers, many rich hacendados are said to fit up pulque shops in various places to dispose of their product to consumers. Pulque-shop keepers (pulqueros) are required by law to sell none of the liquor which is more than twenty-four hours old, but so great is the demand among the lower classes for " strong "—i. e., much fermented—pulque that dealers almost invariably evade the law by mixing with each morning's fresh and slightly fermented supply their residuum of sour pulque of the day preceding.

PRICE, CONSUMPTION, AND MEDICINAL VALUE.

The wholesale price of pulque is usually about 2 centavos (about 1 cent) per liter (liter=1.0567 quarts), or 50 centavos per cubo (25 liters). It usually retails at about 4 centavos per liter. It is stated upon the best authority that the enormous quantity of 800,000 liters of pulque is consumed daily in the City of Mexico and its environs. With so great a demand in a city where the latest census fixes the population at but little above 400,000 the extent to which pulque is used may readily be seen. Fortunately the growing of the maguey is restricted almost wholly to the central table-land of Mexico. That pulque is generally regarded as a national evil by Mexicans of culture and advanced ideas there can be no doubt, and a successful effort has been made to exclude all pulque shops from the main business streets of this city, and whenever possible to avoid licensing them in close proximity to each other. None the less there are many of the poorer districts of the city where one may still come upon one after another of these places.

A prominent Mexican says:

> Whoever could find some other use for the maguey—such, for instance, as utilizing its fiber industrially—would give us a chance to substitute a new source of revenue for the planters and do away with a crying evil.

As to the supposed medicinal value of pulque, the testimony of most Mexican physicians in high standing is to the effect that it is quite nonexistent. The drink, like all fermented liquors, has an effect upon the kidneys, and is moreover slightly laxative, but that is all. Owing to the devious means resorted to by most pulqueros (retailers of pulque) to increase its "strength "—such as by the introduction of chemical ferments, rice, pieces of old leather, etc.—the liquor, unless taken at some hacienda and fresh from the fields, is apt to be extremely unclean and insanitary. The same is probably true of the bottled pulque sold here.

THE DISTILLED PRODUCT.

The mescal, or tequila, as it is often called, is also a product of the maguey or agave plant, but a distilled instead of a fermented one. Of its origin little seems to be known, though it has been in use for centuries in places where the pulque is unknown. To-day the chief seat of the mescal industry is the State of Jalisco, whose district of Tequila (famous for an especially good quality of the liquor) has given to the product the name by which it is most widely known.

I can not ascertain that the use of the mescal or tequila in any way constitutes so great an evil as that of pulque or that the sections where it is best known are demoralized by its use. In taste it is said to resemble raw or new whiskies, with a special, distinctive aromatic flavor. It is properly supposed to be valuable as a remedy against dyspepsia and as an appetizer, although the consensus of our best medical authority seems to point to the fact that any alcoholic stimulant less full of fusel oils would serve the same purposes if taken at the proper times and in proper doses. The following interesting notes on mescal or tequila have been furnished by Dr. W. B. Davis, American consular agent at Guadalajara:

The best as well as nearly all of the liquors now known as tequila are produced in the State of Jalisco. There is a somewhat similar though inferior alcoholic drink produced from the maguey in the northern parts of the Republic—principally in the State of Chihuahua, I am told—called sotol. Vino de mescal is also produced to limited extents in the State of Michoacan, Territory of Tepic, and perhaps elsewhere; but it is said that all the manufacturers of mescal-plant liquors in the western part of the Republic have learned to drop the name mescal and that the name tequila is used by all of them to designate their products.

The bulbous root, or what the natives call "la piña" or "la cabaza," is the part of the plant used in the manufacture of tequila. It takes from seven to twelve years for a plant to mature or arrive at a state for the manufacture of the best tequila. From the 12-year-old plant the best liquor is distilled. The bulbs when harvested are stripped of all leaves, etc., and transported by burros or carts to the distillery. On an average four bulbs constitute a load for a burro. Sometimes, however, the bulbs are so large that half a bulb makes a load for a burro. Six to 12 burro loads, or 48 arrobas (1,200 pounds), are considered equal to 1 barrel (45 gallons) of tequila. The bulbs at maturity are considered by the hacendados to average in value 1 peso (about 50 cents) each. The plants are usually set about 3 feet apart.

DISTILLATION AND SALE.

At the distilleries the bulbs are reduced by various methods—depending upon the machinery or mill—to a pulp, left in vats to undergo alcoholic fermentation, when the ferment is distilled. The quality of the liquor produced is said to depend, first and especially, upon the age of the plant, and, second, upon the manner of distilling. Many of the richer hacendados of this State who make a specialty of tequila leave their plants until the twelfth year, and also are provided with the best and most modern distilleries. This class of hacendados produce the best tequilas, each as a rule naming his product after his hacienda. The inferior products come from manufacturers of more limited means, who can not or do not wait for the plant to arrive at full maturity before realizing on their investment, and from those who gather the wild plant without regard to age, and make whatever kind of alcoholic drink it may produce; but all alike now call their product tequila.

Tequila constitutes one of the greatest sources of wealth of this remarkably fertile State, so noted for its great variety of agricultural products. Whereas there are about 30,000 barrels of alcohol distilled from sugar cane, and some 500 to 1,000 barrels of whisky and alcohol made from corn and rye, there are on an average 100,000 barrels of tequila produced in the State of Jalisco alone.

The wholesale price of the best grades of tequila is 30 centavos (about 15 cents United States currency) per liter, or 21.80 Mexican pesos ($10.85 United States currency) per barrel of 76 liters. Making due allowance for the cheaper grades of tequila, it would be a conservative estimate to place the value of the annual product of the State of Jalisco at about 3,250,000 Mexican pesos ($1,618,500). Good tequila retails here at 50 to 80 centavos (about 25 to 40 cents) a bottle of 70 centiliters, or the ordinary American "commercial quart" size.

The tequila, which is usually sold in the common cantinas or saloons, is tequila revuelta, which means adulterated. This is done by mixing cane alcohol, which is very cheap, with the inferior grades of tequila, always using enough of the latter to give the whole the odor, at least, of tequila. This is retailed at about 25 centavos (about 12 cents) per bottle and sold in copitas or drinks at 1, 2, and 3 centavos, depending upon the size of the measure. This grade of tequila is the drink of the common people here.

[A number of photographs illustrating the pulque industry of Mexico, forwarded by the consul-general, may be seen at the Bureau of Manufactures.]

FRENCH FARM DISTILLATION.

LOW STRENGTH USED, BUT CHEAP STILLS WILL PRODUCE HIGH TEST.

Consul-General Robert P. Skinner, of Marseille, sends the following supplementary report on the use of small alcohol stills in France:

The publication of my previous report on alcohol in France in the issue of Daily Consular and Trade Reports for September 12 has evidently occasioned some surprise to American manufacturers of distilling apparatus, who were under the impression that the low-priced stills in daily common use in France would not yield an alcohol of higher strength than 50°. My correspondence also discloses the apparent fact that no American manufacturers are at present building small stills within the reach of the average farmer, and that if the benefits of the denatured alcohol law are to be extended to practical agriculturists the education of both manufacturers and farmers in regard to distilling methods must proceed simultaneously.

One of my correspondents says:

> Our information, so far secured in Germany, is to the effect that these small stills will not make an alcohol of higher grade than 50 degrees. We understand that it has to be redistilled before it is suitable for use as fuel, and brought up to 90 degrees. The present interest in the United States is largely concerned with the availability of alcohol for heat, light, and power. Your article would seem to indicate that the small distillers in France make alcohol of 70 degrees strength. We would like very much to have you advise us what market is found for alcohol of this strength, and the average cost of the redistillation necessary to bring it up to 90 degrees.

I have submitted these points to two of the most prominent French firms manufacturing stills, and from their replies and catalogues now in hand it is perfectly clear that there is no reason whatever why cheap stills now on sale in this market may not produce an alcohol of even greater strength than that of 90°, if the interest of the manufacturer requires him to produce an alcohol of this kind. As a matter of fact, the French farmer ordinarily is not interested in the market to which my American correspondent refers, but desires an eau-de-vie of from 50° to 70° alcoholic strength for domestic use. When a higher degree is required, a supplementary device is attached to the ordinary alambics, so that by one distillation alcohols of 90° and 92° and even beyond that figure may be obtained.

It is unnecessary here to enter into full details in regard to the mechanical devices, as I am arranging to have my correspondents supplied with trade catalogues containing all possible information upon this subject. The important point which might be dwelt upon profitably in any publicity campaign contemplated in this connection is that the distilling process is an exceedingly simple one, and that with a mechanical outfit constructed according to the best modern experience it is perfectly possible, by a single operation, to produce an alcohol of sufficiently high proof to be utilized for light, heat, and power, particularly if the distiller disposes of raw material of high quality, such as damaged wine and the pulp of grapes, apples, pears, prunes, and cherries from which the juice has already been extracted. Whether equally favorable results could be obtained by the distillation of potatoes and grains, I have my doubts. At all events, as explained in my previous report, French farmers are seldom interested in the treatment of material of this kind.

CHEAPENING OF ALCOHOL.

EFFORT TO EXTEND THE USE OF THE DENATURED PRODUCT.

Consul T. J. Albert, of Brunswick, Germany, writes that at a recent agricultural congress the question was considered as to what measures seemed appropriate for the general extension of the use of spirits for technical purposes, concerning which he says:

It was stated that the first and most important point for the possibility of an extended technical application of spirits was the establishment of the price. This is influenced by two factors, first, the cost of production, and, second, by legislative revenue measures which operate to make spirits dearer or cheaper.

As the cost of production of spirits can not be lowered under certain limits without destroying the value and importance of its production to agriculture, and as the lowering of the price is an essential condition for its introduction into use for technical purposes, attention must be directed to the point that spirits after leaving the distillery or place of manufacture experience no increase in price which can be possibly avoided. In order to accomplish this, spirits destined to be used for technical purposes should be free from any fiscal tax or, as is the case in Germany, a premium in the shape of a rebate should be paid at the expense of spirits used for drinking purposes.

WHERE NO FEES SHOULD BE LEVIED.

The cost of denaturing spirits should also be reduced as low as possible by the choice of suitable materials for denaturing, and this cost not increased by fees levied for denaturation. The process used in Germany, which allows spirits which are to be used for motive power to be denatured by the far cheaper material, benzol, in place of one-half of the materials ordinarily necessary for the purpose, was commended. In any case the choice of the cheapest possible material for denaturing should not lead to the employment of materials which would have an unfavorable influence on the spirits in its various ways of application, or materials which by simple manipulation can be removed or remain concealed in the spirits.

In order to prevent the arbitrary advance in the price of spirits by the retail trade, to which it is not seldom subjected, it was suggested that the central distributing stations which supply the retail trade with their goods should make known by continuous advertising throughout the territory concerned the proper retail prices of spirits, and, further, that the cooperation of the retail trade in cheapening prices should be compelled by official restraints, such as granting of licenses of sale upon conditions or by official control.

In Germany the tax on domestic spirits per liter (1.0567 quarts) of pure alcohol is 22½ cents, of which 17 cents is for consumption excise, 4 cents for mash-tub tax, and 1½ cents for distilling tax. Upon application to the proper authority this tax is refunded on spirits used for drinking purposes when exported, and also on alcohol used in perfumeries, head, tooth, and mouth washes, and fluid alcoholic medicines, and for certain ethers.

The present distillery price of refined spirits for 100 liters pure alcohol taxed is $30, while the price for denatured spirits 90 per cent alcohol is $5.95 per 100 liters.

BRITISH INDUSTRIAL ALCOHOL.

PRICES INCREASE, NOTWITHSTANDING GOVERNMENT TAX REBATE.

Consul Frank W. Mahin, of Nottingham, gives the following account of the advancing prices in the United Kingdom for denatured alcohol:

For the benefit of industries in which alcohol is necessary, an act of Parliament in 1906 provided for the use of manufacturers a special methylated spirit with a rebate of 5d. (10 cents) a gallon on internal taxes. The act also contemplated that British manufacturers would thus be able to compete with rivals in countries where alcohol was free of duty, the taxes on it in Great Britain being heavy. However, the makers of methylated spirit organized, and manufacturers who expected to pay 5d. less a gallon for their alcohol than prior to the new regulation were surprised when manufacturers of the spirit deducted only 4d. (8 cents). Now it is announced that the makers of methylated spirit have advanced its price 3d. (6 cents) a gallon, leaving an advantage of only 2 cents to the manufacturers for whose special benefit the Government concession of 10 cents was made. Indeed, it is intimated that a result of the close combination among spirit producers will be even higher prices for industrial spirit than prevailed before the special act was passed.

Current remark on this situation is to the effect that while the price of industrial spirit is advancing in this country it is declining in the United States; that almost simultaneously the United States and Great Britain enacted laws to benefit users of spirits for industrial purposes; that while the effect in America has been to stimulate competition and increase the production of spirit the result in this country has been to check competition and raise the price of spirit; that America will now become a very serious rival to British chemical manufacturers, and that increasing imports from the United States of goods in the making whereof alcohol is essential may now be expected.

GERMAN BRANDY MONOPOLY.

PRICES TO CONSUMER EXPECTED TO BE INCREASED.

The Berlin Tageblatt learns from a reliable source that the German Government has decided to introduce in the ensuing session of the Reichstag a bill to establish a monopoly of the brandy trade. The negotiations with the spirit syndicate are declared to be as good as concluded. Under the scheme it is proposed to nationalize the spirit syndicate in its present shape and form; the large spirit factories will be bought up by the Empire, and the smaller spirit factories will be settled with correspondingly. The Imperial Government offers to the spirit producers the guaranty to pay for the raw spirit to be delivered such prices as will equal if not exceed those obtained under existing conditions. The prices of brandy will be correspondingly increased, and the additional cost will therefore have to be borne by consumers. It is expected that the introduction of the monopoly would yield a net sum of £3,500,000 (£=$4.86) per annum in the first few years and that the receipts would be increased in subsequent years.

TRANSPORTATION.

WORLD'S RAILWAY SYSTEMS.

CHINA.

PEKING-HANKOW LINE SHOWS EXCELLENT RETURNS FOR FIRST YEAR.

Vice-Consul-General W. B. Hull, of Hankow, has secured the returns of 1906 for the Peking-Hankow Railway, and as the line has proved to be such a great success during its first year he quotes below the figures showing the immense profits during that period:

Railroad men will probably wonder at the percentage of net receipts, but the year 1907 will greatly exceed 1906 as the line suffered considerably last year from heavy floods which in many places completely destroyed its embankments. The length of the Peking-Hankow railway is 1,214 kilometers (about 750 miles), not inclusive of 57 kilometers (35 miles) of sidings.

During 1906 the net return per kilometer (0.62 of a mile) over the entire line was $2,065, United States currency. The gross receipts during 1906 were (converted on the basis of Mexican peso at $0.52) $3,945,760, of which $1,378,680 was from passengers, $2,489,080 from freight, and $78,000 from freight (service). The operating expenses were $1,320,280, leaving net receipts of $2,625,480. The interest on the loan at 5 per cent amounted to $1,136,720, the interest on Chinese loan and bonus to $270,400, leaving a gross profit of $1,218,360. From this was deducted $121,836, as 10 per cent for reserve fund, and a net profit of $1,096,524 remained. This makes the coefficient of exploitation 30.68 per cent.

COST OF OPERATION AND TRANSPORTATION CHARGES.

The percentage of expense in the central administration was 11.39; exploitation and operation, 19.57; traction and materials, 46.38, which was high owing to cost of coal; tracks and works, 22.66. The number of 1 ton (2,204 pounds) kilometers was 266,329,358; average run of 1 ton, 150; average return of 1 ton, $1.40; average return of 1 ton per kilometer, $0.0092.

Probably the greatest feeder the Peking-Hankow Railway will have is the line now being built from Kai-feng-fu, the capital of Honan Province, to Honanfu, Honan. It runs at right angles to the Peking-Hankow Railway, crossing the trunk line at Chengchow, Honan, and is about 120 miles in length. The syndicate which floated the loan and is in charge of the work is known as the Compagnie Générale des Chemins de Fer et des Tramways en Chine. The line is held by the said company for twenty years or until the loan is repaid, which is at 5 per cent.

The eastern section from Chengchow to Kai-feng-fu, a distance of 40 miles, is now completed and operating, although it has not yet been formally opened for traffic, and probably will not be until the western section from Chengchow to Honanfu, a distance of 80 miles, is completed. The passenger and freight charges on this line are the same as on the Peking-Hankow Railway, or as follows per kilometer: First-class passengers, $0.018; second-class, $0.013; and third-class, $0.006. First-class freight per ton, $0.083; second-class, $0.026; and third-class, $0.017.

CONSTRUCTION WORK AND PROPOSED LINES.

Construction is proceeding on the Chengchow-Honanfu section, already about 50 miles of track being completed, but they are subject to frequent delays, as the rails, which are 12 meters (meter 39.37 inches) long, and can not be made out here, are being delivered by the Belgian mills very slowly. The rolling stock is being sent out from Belgium knocked down and is set up in the shops at Chengchow. It is now hoped that the entire line will be completed and operating by March or April of 1908.

There is already talk of extending this line, as the present terminals are unsatisfactory, and it will no doubt later on be built on west to Si-an-fu, the capital of Shensi, a distance of about 200 miles. Their idea is to run the line along the old cart road through Shenchou and Huachou, but it will be difficult work, as the country is of a rocky loess formation, making solid construction very hard.

The Chinese are rapidly realizing the benefits of the railroad and the officials soon learn of the large and immediate returns from them. In addition to the work now going on in this country, such as the Canton-Hankow and Szechuen-Hankow lines, it is rumored that the Chinese will soon take action toward the building of a railroad from Chinkiang west through Kiangsu and Anhwei provinces to Sin-yang, Honan, where it will connect with Peking-Hankow line, a distance of about 300 miles. Nothing, however, has been done aside from a rough survey of the country. This line might then be extended westward from Sin-yang to Siang-yang, Hupeh, a rich city in the upper Han River Valley. Another proposed line regarding which there is some talk may be built between Nankin and Kai-feng-fu, about 150 miles, a branch of which would be extended from Suchou, Anhwei, to Yenchou, Shantung.

FREIGHT HANDLING AT DALNY.

THE SOUTH MANCHURIA RAILWAY ANNOUNCES IMPROVEMENTS.

Referring to the South Manchuria Railway and the handling of freight at Dalny, Consul R. S. Greene reports that on October 1 certain important changes were to be inaugurated by the railroad, especially in regard to the management of its wharves, concerning which he writes:

The most important of these changes is the abolition of the wharf charges, 5 sen (100 sen=1 yen=49.8 cents) per day per ton of the gross register of ships lying alongside, and 10 sen per ton for freight passing over the wharf inward or outward, besides small charges on passengers and animals.

Under the new wharf regulations, of which I send a translation, vessels which are to come alongside are placed under the control of the company's superintendent, who has charge of the wharves and of the breakwater which protects them. Vessels requiring the assistance of a towboat or launch to bring them alongside can hire them from the company at fixed and reasonable rates. Such towboats are placed under the orders of the ship's captain, and the ship is held responsible for any damage that may be done to or by them. It is found here that most foreign shipmasters have no serious difficulty in bringing their vessels alongside without the assistance of a towboat, whereas Japanese masters, having had less occasion to practice such maneuvers, usually employ a towboat. A code of special signals for the guidance of vessels is included in the regulations. Pilots will be supplied on request.

RAILROAD WILL TRANSFER CARGO AT LOWER RATES.

Almost equally important is the decision of the company, embodied in regulations of which I forward a translation, to undertake itself all the discharging and loading of cargo on its wharves, which is now being done by various transportation and stevedoring agencies. A fixed schedule of charges is attached to the regulations, from which it would appear that the rates are on the whole lower than those charged by the private companies. It is not possible to say how this change will affect merchants in general until the new regulations have been in operation for a time, though some of the smaller merchants anticipate that it may be more difficult to settle satisfactorily differences which may arise with a great company like the railroad than with a small forwarding house.

The forwarding houses, which under the military régime appear to have enjoyed special facilities in dealing with the railroad, protested repeatedly against this railway monopoly. Failing to change the purpose of the company they applied for rebates for such stevedoring business as they brought, but this request was refused, as was also their application for special rebates on the freight paid by them to the railroad, larger than those to be granted to shippers in general. So far only two shippers, both transportation companies, have filed the required notification that they expect to qualify for a rebate. A revised and classified schedule of storage charges is attached to the stevedoring regulations.

The purpose of these changes is to increase the attractiveness of this port to shippers, and it would appear that some such action was necessary from the point of view of the railroad, as of late, owing to low rates on the Imperial Chinese Railway between Mukden and Newchwang, most of the export sent by rail is said to be going by that route, while of course Newchwang also gets the river traffic.

SILVER VERSUS GOLD CURRENCY.

The regulation of the South Manchuria Railway Company makes all its charges from October 1 payable in gold instead of silver. As the silver yen is now at a premium of about 4 sen, this amounts to a 4 per cent reduction on all railway charges. Until April 1 last, when the company took over the line from the military, only silver currency was accepted by the railway, the gold currency not even being taken at a discount. Since that time, while the railway company has continued to calculate its charges on the silver basis, it has accepted gold and gold notes at the official rate of exchange, which has varied between 1 and 1.04.

The Japanese population is fond of the standard gold currency and Bank of Japan gold notes to which it is accustomed at home; the subsidiary silver currency imported from Japan is on the gold basis, there being no fractional currency corresponding to the silver yen and the silver notes of the Yokohama Specie Bank, and, in addition to these forces acting against the silver yen, the two currencies are so nearly equal in value that in small retail transactions there is one and the same price, whether gold or silver is offered, so that shoppers usually pay in the cheaper gold currency. The civil government still employs the silver currency, but it is said that a change to the gold standard throughout the territory occupied by the Japanese is being considered. Even with the Chinese, for whom the silver currency was intended, the Japanese silver yen is not popular. The slight difference in coin value between it and the Mexican dollar introduced one more apparently unnecessary confusing factor into the Chinese currency situation.

[The regulations for vessels and stevedoring at the Tairen (Dalny) wharf are filed for public reference at the Bureau of Manufactures.]

REBATES TO BE GIVEN TO THE LARGER SHIPPING CONCERNS.

Consul Greene furthermore reports that the South Manchuria Railway Company has decided to give rebates to heavy shippers, the particulars being as follows:

Those paying freights amounting to 100,000 yen ($49,800) or over, during the twelve months beginning October 1, 1907, will receive rebates varying from 3 per cent on 100,000 yen to 7 per cent on 500,000 yen ($249,000) and over, the schedule providing for one-half of 1 per cent additional rebate for each increase of 50,000 yen in freight payments up to 500,000 yen. Over 500,000 yen, a rebate of 7 per cent is allowed.

BENEFICIAL TO JAPANESE FIRMS.

HANDICAP TO SHIPPERS OF AMERICAN COTTON GOODS.

Consul-General H. B. Miller, of Yokohama, reports in connection with the dispatch from the consul at Dalny that the rates of rebate therein fixed for large shipments over the South Manchuria Railway appear to him to be designed primarily for the purpose of special benefits to Japanese concerns. Mr. Miller adds:

For example, I understand that all of the Japanese cotton goods shipped into Manchuria are handled by the Mitsui Bussan Kaisha exclusively. This company, therefore, handling largely Japanese products, will secure the benefits of the 7 per cent rebate on freights, while the smaller shippers, handling American cotton goods in smaller and separate lots, will be handicapped by this regulation. The effect of the regulation will most likely be to concentrate the business of Manchuria along the line of the South Manchuria Railway in the hands of large Japanese merchants.

CANADA.

TIMELY OPENING FOR ESTABLISHMENT OF CAR SHOPS IN WINNIPEG.

Consul J. E. Jones, in the following Canadian report, invites attention to the probability of mammoth car shops being erected in Winnipeg and the effect it would probably have on industrial conditions:

The building of a new transportation line—the Canadian Trunk Pacific—suggests the importance of building car shops somewhere in the Middle West, where rolling stock can be manufactured to take care of the expansion of trade. Car shortage has been the one bugbear of western Canada, and each year the farmers raise the cry for more cars. The farmer with his produce finds no difficulty in locating a market, but there are not cars enough to handle the business. The railroads are blamed, unjustly it is said, for the companies claim they are willing and anxious to buy as many cars as are offered; but they explain that the shops of Canada and the United States are taxed beyond their capacity and it is not possible to buy cars at any price. However that may be, the railroads of Canada have been going ahead building new lines without regard to the all-important question of rolling stock and unless something is done the legitimate business of the country will be handicapped for years to come.

SUCCESSFUL EXPERIMENTS.

The building of cars in Winnipeg has been tried as an experiment, and the result has been satisfactory. Some time ago the Canadian Northern started the building of cars in the company's shops and turned out upward of 100 cars, including coaches, box cars, and cabooses. The Canadian Pacific, which operates extensive shops here, has not essayed the building of cars, although when the plant was projected it was believed there would be ample opportunity for car building. But the repairs have employed every square inch of space and the company is understood to be contemplating an addition to its works.

British Columbia, with its great timber resources, has been considered as an available point, but the absence of iron and the long haul from the iron-manufacturing cities of the parts for assembling is an argument against the Pacific coast.

Canada has in operation 21,500 miles of railway, and but 88,000 cars are available for handling the traffic, an average of four cars per mile of railway. It is estimated that eight cars per mile of railway are necessary for operating the roads to handle all the freight. If this be so, there will be a market for 80,000 additional cars. If, however, the new roads now under construction are taken into consideration, at least 100,000 cars will be needed over and above those now in use within the next five years. These, it is estimated, would cost at least $850 each, or a total of $85,000,000, and these figures contemplate new equipment, and do not take into consideration the replacement of old cars. It is said that the average life of a freight car is ten years.

The output of all the shops, not including the works of the Angus shops of the Canadian Pacific Railway, has never reached 5,000 cars annually, although it is shown they have a capacity of twice that amount. But these shops, it is stated, are rushed with orders for electric street cars, and find this much more profitable than the building of freight cars.

Winnipeg is now operating five iron works and foundries, a rolling mill, several brass foundries, and other industries, to advantage.

MEXICO.

ADVANCES AVERAGING TWELVE PER CENT TO BE MADE IN FREIGHT RATES.

Consul W. D. Shaughnessy, writing from Aguascalientes, states that increases are to be made in freight rates on the Mexican railroads, concerning which he sends the following newspaper notice:

The changes will result in an increase in the freight rates on the specified commodities averaging about 12 per cent. The railroads desired average increases of about 20 per cent, but the Government commission allowed average increases of but about 12 per cent. Included under special tariffs are the commodities like coal, coke, lumber, grains, sugar, ores, etc., which form the bulk of the freight moved by railroads. The matter of the classification of ores and the revision of the special tariffs covering ores has been referred to a subcommittee for consideration.

While apparently large, it is asserted by experts that the increases granted in special commodity tariffs in reality will be so small as not to be noticeable by either the shipper or the consumer. In the case, for instance, of grains the increase will be so small that it will amount to but a fraction of a cent on the bushel. These increases, however, while not being a burden either on the consumer or shipper, it is asserted, will result in the material enlargement of the revenues of the railroads and provide them with the funds for the construction of needed improvements.

The railroads have insisted that increases in rates are necessary, for the reason that the cost of labor and of materials has increased from 60 to 150 per cent since the revision of rates in 1900. The fact that only two or three times in their history have the principal Mexican railroads been able to meet their fixed charges is also pointed to by the representatives of the railroads as a reason for the enlargement of the revenues of the railroads by increases in rates.

HONDURAS.

NEW LINES STIMULATE THE COMMERCE OF THE PORT OF CEIBA.

Consul Drew Linard, of Ceiba, shows in the following report how the extension of railroads in Honduras is opening up the Republic for development:

The Vaccaro Brothers railroad, now in course of construction to connect Ceiba with Porvenir, Salado, San Francisco, and Santiago, situated 35 miles to the west, is expected to be in operation some time in the spring of 1908. Three spurs from the main line at different points will penetrate 5 to 8 miles inland, tapping many thousand acres of undeveloped agricultural land, while the projected extensions of these spurs will eventually reach the neighborhood of the valuable hard-wood timber tracts located some 20 miles back of the coast line.

The completion of this first installment of the 150 miles of projected road is expected to divert the greater part of the marine commerce from the towns mentioned and centralize the bulk of commerce and shipping in Ceiba. Considerable impetus to trade and commercial activity is therefore confidently looked for by the merchants here, and a general movement toward improvement in municipal details, erection of dwellings, and the ample stocking of stores is being made in anticipation of the expectant boom.

ASIATIC TURKEY.

FREIGHT AND PASSENGER TRAFFIC STEADILY INCREASING.

The following report from Consul Ernest L. Harris, at Smyrna, is further evidence of the railway progress in Asiatic Turkey:

The Ottoman Railway Company, with a line extending from Smyrna into the interior of Asia Minor, is a prosperous enterprise. It is chiefly owned and controlled by English stockholders. A dividend of $2 on the share has been declared for the first half of 1907, Freight and passenger traffic is steadily increasing. In 1900 the total number of persons traveling over the road was 703,472. The revenue from this source at that time was $225,000. In 1906 the number of passengers had increased to 1,306,925 and the total receipts in money to $300,000. With the exception of the wheat crop, in which there has been such a shortage that there is now practically a flour famine in Asia Minor, all other harvests, excepting raisins, have turned out a good average. As most foodstuffs are exported, they are brought over the Aidin Railway to Smyrna for shipment. An extension of the railway to Egirdir, a large inland lake in Asia Minor, has been commenced. This will tap a large corn-producing section.

BRITISH INDIA.

DESIRABILITY OF AMERICAN RAILWAY CARS.

Consul-General William H. Michael, in the following report from Calcutta, shows the desirability of the American railway train system in India:

In consequence of recent murders, robberies, and other outrages on trains in India the Eastern Bengal State Railway has ordered electric alarm bells to be installed in the cars of their line, so that passengers may communicate with the guards on the train. It would appear that the only effectual and practical remedy is the substitution of cars built on the American plan, with open ends and vestibule connection, for the side-door arrangements used in India. The English passenger cars, or carriages as they are called, which open at the side, are not suitable for India.

ITALY.

EXPRESS ROUTE BETWEEN NAPLES AND ROME.

Vice-Consul Homer M. Byington, of Naples, reports that the much-discussed project of a special express route between Naples and Rome now seems possible of realization, as the following shows:

Work is in progress on 8 miles of the central section of the line between the River Amaseno and the village of San Biagio in order to connect the existing lines of Rome-Terracina and Sparanise-Gaeta. Included in the central section is the Orso tunnel, which will be 5 miles in length, and between Fondi and Formia it will be necessary to bore another tunnel of about the same length. The entire route is expected to be completed in five years, and it is predicted that the time between Naples and Rome will then be reduced from five hours to three hours.

BELGIUM.

CLASSIFICATION OF MERCHANDISE FREIGHT RATES.

Consul-General H. W. Diederich, reporting from Antwerp, gives the comparative freight rates in the ordinary classification, carload lots for export and for fast freight, for some of the leading articles of merchandise over the railroads in Belgium, which list of rates is on file for inspection in the Bureau of Manufactures. He notes that the rate for fast freight uniformly is $7 per ton for 100 miles, and it is owing to this high price that general merchandise is rarely shipped in that way. When goods are shipped by carload, the consignee has to pay also the charges for unloading. For each shipment there is also a charge of about 14 cents for the documents required.

STEAMSHIP LINES.

BRAZIL.

INCREASES SHOWN IN NUMBER OF FAST VESSELS FROM EUROPE.

According to Consul-General G. E. Anderson, of Rio de Janeiro, a review of the shipping service between Brazil and the rest of the world during the first half of the calendar year 1907, as compared with the same period in 1906, is of decided significance in connection with the matter of developing American trade in South America, as may be gleaned from the following particulars:

There has been no increase in the number of fast ships plying between American and Brazilian ports, for the simple reason that there are no such ships. With Europe, however, there were, according to the best information to be secured, 46 ships of 14 knots speed or over—some of them exceeding 16 knots—entering Rio de Janeiro from Europe in the first half of 1906, while the number for the same period of 1907 rose to 81. The net registered tonnage of these ships was given as 283,795, or about 430,000 gross, an average net tonnage per ship of over 3,500. During the same period there departed from Rio de Janeiro for European ports a total of 91 ships, with a registered net tonnage of 338,692, with that speed. From Europe, therefore, there was a service—mail and fast freight—of over three ships per week, and to Europe there was an average of three and one-half ships. It should be realized that this service is over and above all German line ships, all Austrian line ships, the Havre line of French ships, and all English ships but the Royal Mail, the Pacific Steam Navigation Company ships, and several Australian service ships. It includes no tramp steamers or slow ships. It is, in short, over and above the character of service now existing between the ports of the United States and South American ports. It represents a service in mail and freight facilities which the United States does not have at all in this trade, and from a lack of which American trade is unquestionably suffering directly and seriously.

An examination of the steamships plying between European ports and Rio de Janeiro shows no particular features other than that of steady development in shipping service. The English mail lines have put several new, large, and finely equipped vessels into their service, and the lines of other nations have also received notable augmentations.

Considering shipping as a whole, the vast increase in tonnage between Brazil and Europe reflects, in general, the increase of the country's trade as a result of the immense coffee crop. There was no similar increase in the number of vessels bound for American ports, the record being 64 for the period. The arrivals from the United States were substantially the same as those for the year before. With the United States, in general, therefore, there was no improvement nor anything to indicate hope of such. With Europe the improvement was immense, in spite of the high character of the service already had.

URGENT NEED OF AMERICAN STEAMSHIPS.

There appears to be no adequate explanation of the shipping service given the European nations trading with Brazil other than Government aid and the ability of other nations to build and maintain ships in service more cheaply than the United States. Of the fast ships entering Rio de Janeiro only those of England are from a nation having more exports to Brazil than the United States. Germany has a large and growing trade with Brazil, but its ships—large, fine, well-equipped vessels running on regular schedule and furnishing a highly satisfactory service—are not included, because of their falling below the 14-knot limit of speed.

Including exports to and imports from Brazil, the United States has a larger trade than any other nation. France and Italy, with much less exports to Brazil than the United States and immensely less imports from Brazil, have a satisfactory fast shipping service. It is true that these countries have the advantage of immigration business with Brazil, but this element can hardly account for the entire difference in the situation of the two countries as compared with the United States. That the nations and their capitalists concerned find their improved shipping service to Brazil profitable is amply demonstrated by the constant increase in the size and speed of their ships and by the generally healthy condition of their shipping enterprises in Brazil. During the six months of the year under review one American ship, a sailing vessel, was entered in the port of Rio de Janeiro and two American sailing ships cleared from the port. There were no other American vessels in the port during the half-year period.

FORTNIGHTLY STEAMSHIP SERVICE WITH NEW YORK.

In a subsequent letter from Consul-General Anderson he reports the establishment of the following steamship service between South American ports and New York, which will add greatly to present facilities:

Announcement has been made by the Lamport & Holt Line of steamships, running between New York and Brazilian and other ports of the east coast of South America, that, beginning at once, a fortnightly service of large ships is to be established and maintained between these ports so long as business justifies. The arrangement also includes one steamer a month, or rather about every three weeks, to the River Plata. The plan is to maintain the steamers Byron and Tennyson, now serving on the New York-Rio de Janeiro run, in their present service and to supplement this monthly service by sailings in mid month by one of four of the " V " class of the company's steamers like the Voltaire, Velasquez, etc. These steamers range from 8,000 to 11,000 tons gross. They are being overhauled and their cabin and deck space enlarged so that they will have superior accommodations for 60 passengers each. These vessels will make the run from New York to the River Plata ports, stopping at Brazilian ports. The run will be made upon a seventeen to nineteen day schedule like that of the steamers of the company now in the service. The return service will be the same. The addition of those steamers on the run from New York to Brazil will be a notable betterment in the service, although of course a service of faster ships is much to be desired.

CANADA.

NEW PACIFIC COAST LINES WILL FURNISH AMPLE SHIPPING FACILITIES.

Consul E. A. Smith, of Victoria, reports that a new service, operated by the British Coast Steamship Company, has been established to operate between Alaska, British Columbia, Puget Sound, and Mexico, the details being as follows:

The manager of the company is an American, and a large portion of its stock is also owned by Americans. While called a British company, its ships are Norwegian built, carry the Norwegian flag, and are operated by Norwegian captains and crews. The headquarters of the company are in Victoria, where the manager resides. He announces that in the spring there will be three steamships operated by his company, all suitable for both freight and passengers. At present the only vessel in commission is the Transit, 275 feet in length, 35 feet beam, and of 1,057 tons register. This vessel is under a three years' charter, and the manager announces that other steamers, also Norwegian, will be operated on the same lines.

OTHER NEW LINES.

It also announced that another company has two other Norwegian steamers chartered to engage in the British Columbia and Alaskan coasting trade. These latter are managed by a local firm known as the Mackenzie Steamship Company. It is likewise stated that a large Dutch shipping firm of Bremen is contemplating running next spring two large steamships, suitable for both freight and passengers, between Victoria and North China and Siberia.

It is also said that a British company, known as the Queen Charlotte Navigation Company, of which Victoria is the home port, is to bring out two steamers from England in the spring. The schedule as at present outlined calls for stops at Vancouver, whence the vessel will go direct to Jedway, British Columbia, and from there they will go to Ketchikan, the northernmost point, calling at Skidegate and Masset en route. Returning they will call at Prince Rupert, British Columbia.

The inauguration of service by the British Coast Steamship Company, the prospective addition of two other Norwegian steamships to its line, and the announcement of the local firm that two other steamers of the same nationality are to operate in these waters have aroused expectation of a large cut in rates, as it is acknowledged that Norwegian ships can be run for a third to one-half the cost of local steamers.

The coasting trade between the State of Washington, British Columbia, and Alaska has developed greatly during the past year, and the expectation is that next spring, when the Grand Trunk Pacific promises to commence active work on the west end of their transcontinental route, the Canadian Pacific is to push the extension of the Vancouver Island Railroad to the west coast, and the building up of Prince Rupert is to be rushed, the trade will be quadrupled.

UNITED KINGDOM.

EVIDENCE OF DECADENCE OF AMERICAN SHIPPING.

In a report on the shipping of Hull, England, Consul Walter C. Hamm directs attention to the disappearance of American shipping at that port as follows:

Among the 25,000 or more ships that have entered the Humber River ports during the past seven years there has been only one ship of American register. This was the bark Homeward Bound, from San Francisco, loaded with barley, which reached Hull in March, 1906.

In the years from 1895 to 1900, both inclusive, at least one American ship a year arrived at the port of Hull, but in the seven and a half years from April, 1900, to October, 1907, only the one ship of American register has entered the Humber River. No more striking evidence than this probably can be given of the decadence of the American merchant marine. Regular lines of steamships run from Hull to New York and Boston. Another line, to Galveston, touches at Grimsby, the second port on the Humber River. Chance steamships also run frequently to Philadelphia, Norfolk, Savannah, New Orleans, and Galveston. Not one of them, however, flies the American flag. The trade must be profitable or it would not be kept up. It is to be regretted that Americans have no share in it.

NATIONAL AID TO SHIPPING.

SUBSIDIES GRANTED BY THE BRITISH GOVERNMENT.

From the "Return of all sums payable out of the exchequer in the year 1906–7 in respect of steamship subsidies for foreign and colonial services," just issued, Consul-General Robert J. Wynne, of London, learns that the following yearly subsidies are granted by the British Government:

London, Chatham and Dover Railway Co., mail service to France	$121,662
Great Eastern Railway Co., mail service to Holland	4,137
Cunard Steamship Co	330,923
Cunard Steamship Co	102,196
Pacific Steam Navigation Co	155,728
African. and British and African companies	74,725
Union Castle Steamship Co	$27,106
British India Steamship Co	43,798
Peninsular and Oriental Steamship Co	1,654,610
Canadian Pacific Railway Co	291,990
Allan Steamship Co	9,733
Royal Mail Steamship Co	85,164
Total	2,901,772

The second sum of $102,196 payable to the Cunard Company is charged to navy funds. This was increased to $364,987 for the two new vessels (Lusitania and Mauretania) after their first voyages. The above sums are gross amounts. An aggregate of $890,228, made up from contributions from colonies and sea postage, is to be set off against them, leaving a net charge on the exchequer of $1,525,040.

JAPAN.

RENEWED PLAN TO ASSOCIATE SEVERAL LARGE COMPANIES.

Consul-General H. B. Miller, of Yokohama, forwards the following newspaper article on the further efforts to combine Japanese steamship lines:

In reviewing the present position of steamship companies in Japan the Osaka Asahi remarks, says the Japan Chronicle, that the aggregate tonnage of Japanese steamships, which stood at 791,000 at the end of 1904, has increased by about two-fifths during the last two years and a half, and now stands at about 1,100,000 tons. This has resulted in a heavy excess of bottoms over demand, and has been responsible for a marked development of the Japanese steamship service in Japanese and Far Eastern waters. But the increase has not been shown in freight and passengers in proportion to the increase of tonnage, and, naturally enough, keen competition has ensued among steamship companies, resulting in a decline of freight rates. Pressed by the losses in business under these conditions, the incorporation of individual steamship owners into a company under the style of the Japan Steamship Company was undertaken. The commercial and financial success of the proposed company was, however, felt to be doubtful, and the scheme collapsed.

The working of even the more prominent steamship companies, such as the Osaka Shosen Kaisha, Nippon Yusen Kaisha, and Toyo Kisen Kaisha, is found to be very unsatisfactory. It is known that the working of the Osaka Shosen Kaisha for the last two periods, and of the Nippon Yusen Kaisha and Toyo Kisen Kaisha for the last business period, has resulted in some loss, and it is feared that the result may be the same for the present period. The Osaka paper goes on to say that, unlike business on land, the shipping business has to meet with peculiar and keener competition, and so it is less lucrative than business on land, as may be seen in Europe and America. Until recent years the Nippon Yusen Kaisha was able to make a good profit on account of a bounty granted by the Government, and also because of the comparatively limited supply of bottoms in the Far East. Latterly the company has been placed in a very trying position through the strong competition resulting from the great increase in bottoms without a corresponding increase in freight and passengers. It is stated that in view of the unsatisfactory results of its South American service and other circumstances, the Toyo Kisen Kaisha has proposed to incorporate with the Nippon Yusen Kaisha, and Mr. Asano, president of the company, is said to be conducting negotiations in person.

The success of the negotiations can not be predicted as yet, but the term of the grant of the Government subsidy to the Toyo Kisen Kaisha expires in two years, and the contract with the South Pacific Railway Company for the connection of service also expires at the end of the present year. If the incorporation of the two large companies is successfully negotiated it may relieve in some degree the present trying position of the steamship business in Japan.

RUSSIA.

ADDITIONAL FREIGHT AND PASSENGER SERVICE WITH BATUM.

Consul William W. Masterson writes as follows from Batum in regard to additional traffic facilities for that Russian port:

For the past year and a half the North German Lloyd and the Deutsche Levante Linie have been operating a line of passenger ships from Batum to Marseille, each company putting into the trade three ships, and while but little freight has been carried considerable passenger business has been developed. An announcement has now been received that from January 1, 1908, the North German Lloyd will assume full control of this line of ships, that three new and fast ships of over 5,000 tons will be added to the fleet, and that much quicker time will then be made between the two ports mentioned.

By the strengthened service, with close connections at Naples, Genoa, or Marseille with shipping lines trading with America, freight or passengers traveling between New York and Batum may make the trip within fifteen to twenty days, thus allowing passengers to make the journey to Europe and America by sea almost as quickly as by the present more popular route, which is by water to Constantinople or Odessa, and thence by rail to western European ports.

ASIATIC TURKEY.

COMPETITION LEADS TO IMPROVEMENTS.

Some additional facts concerning the foregoing steamship service are conveyed in the following report from Consul Ernest L. Harris, of Smyrna:

For some years past the North German Lloyd Steamship Company, of Bremen, has had a contract with the German Levant Line, of Hamburg, to run steamers jointly for the purpose of catering to the Mediterranean trade. Thus far they have been maintaining a regular weekly service interchangeably between Marseille and Genoa and Odessa and Batum. This contract has now been canceled, and from January 1 each company will revert to its own former independent arrangement.

The German Levant Line will take up its old service between Hamburg and Black Sea ports. The North German Lloyd will maintain a regular service between Marseille and Italian, Greek, and Levantine ports. For this purpose three of the largest vessels on the Australian service, namely, the Bayern, Sachsen, and Preussen, are to be placed in the new Mediterranian line. It is the intention of the Lloyd company to fit up the best service in these parts in order to successfully combat French and other competitors. The present fare on the French and German lines from Paris to Smyrna by the way of Marseille is $40. This includes first class on the French railway and first class on the vessel, including stateroom and excellent food during a five to six days' sea voyage.

The betterment of the German service in these parts indicates to some extent the prosperity attendant upon the efforts of the Lloyd company to get its full share of the Mediterranean trade. It also indicates that those in charge of this service realize the importance of putting forth every effort to secure trade with a Levantine port like Smyrna, which is the commercial gateway to Asia Minor. This can only be done by putting in the service large vessels, in order to accommodate freight, and by catering to the comfort of the ever increasing passenger traffic.

EGYPT.

NAVIGATION THROUGH THE SUEZ CANAL.

Consul-General Lewis M. Iddings forwards from Cairo a book, which is filed for public reference at the Bureau of Manufactures, giving the statistics of the navigation through the Suez Canal for 1906. A summary shows that during the year 3,975 vessels, with a total tonnage of 18,809,169 tons gross and 13,443,392 tons net, passed through the canal. Of this number 97 were war ships and military transports.

The passengers going through the canal in 1906 numbered 135,752 civil and 258,501 military, of which 57,183 and 127,134, respectively, were British, 19,762 and 25,615 were German, and 22,201 and 21,093 were French.

MOTOR VEHICLES.

GERMANY.

AGITATION TO RESTRICT FAST RUNNING OF AUTOMOBILES.

Consul-General Richard Guenther, of Frankfort, reports that the reckless pace at which automobiles and motor bicycles are run in Germany and the injuries resulting therefrom to the health, comfort, and property of people using the highways, or living alongside of them, has produced a somewhat unfriendly feeling toward these vehicles. The consul-general says:

To this feeling may be attributed in part the lessened demand for automobiles. The Farmers' Association of the province of Nassau, in the Frankfort consular district, at the general meeting recently held adopted a resolution to request the convention of the United Farmers' Association of Germany to move in favor of legislative action to restrict the fast running of these vehicles for the following reasons:

Owing to the steadily growing automobile traffic and the excessively fast pace at which these vehicles are run, serious accidents are of frequent occurrence, by which the life and property of the public is strongly endangered and actually injured. Furthermore, these risks are greatly increased by the automobile races, which also incommode and hinder public traffic, particularly among the farming population of the districts where these races come off, by the shutting off for days of the roads over which the competing automobiles race. The executive officers of the farmers' associations are requested to urge upon the public authorities that in future automobilists be held under stricter control, so as to avoid excessively fast running, especially when passing through towns and settlements, and that they be made to conform to municipal or police regulations, and that the violation of them be atoned by inflicting severer penalties than now in vogue.

The running of races on highways used for public traffic is also sought to be prohibited. No doubt similar action will be taken by many other associations. The medical fraternity may join the protestants, because it is well known that the clouds of dust raised by the fast-running automobiles are great enemies to the lungs of the people and prolific generators of consumption and other diseases.

The automobile omnibus line between Wiesbaden and Schlangenbad, in this consular district, which started under great expectations, has been discontinued because it did not pay.

UNITED KINGDOM.

AUTOMOBILE ACCIDENTS—OUTCRY AGAINST RECKLESS MOTORING.

Consul Frank W. Mahin, of Nottingham, reports that the number of automobiles now used in Great Britain is estimated at 45,000. He adds:

In comparison with horse vehicles, this is obviously a small number, but the Highways Protective League gives out figures intended to show that automobiles are responsible for many injuries and deaths. The secretary of the league announces the following statistics applying to the past summer, which, he states, he compiled from reports in the British press:

	June.	July.	August.	Total.
Motorists summoned	308	236	326	870
Motorists committed for driving dangerously, etc	99	60	106	265
Motorists convicted for exceeding speed limit	166	139	177	482
Motorists committed for other offenses	17	14	21	52
Total	282	213	304	799
Accidents	111	85	137	333
Persons killed	18	16	40	74
Persons injured	92	89	117	298

The secretary deems these figures sufficient to warrant greater stringency in speed regulation and in imposing penalties for violation thereof. The outcry against reckless motoring is so great from villages and country districts that it is filling the press with all sorts of remedial suggestions. It is admitted that speed control is practically impossible while vehicles capable of running 30 to 60 miles an hour may freely traverse the public roads. Among the favorite suggestions is that of a series of tollgates at frequent intervals, where motor cars must necessarily stop and contribute a sum toward road maintenance, and that of their exclusion from the ordinary roads and their confinement to roads specially constructed for them at the expense of automobile users.

KOREA.

OPERATION AND PROFITS OF THE EMPIRE'S ONLY TROLLEY LINE.

Consul-General Thomas Sammons, responding to an inquiry, says that the American-Korean Electric Company operates at Seoul the only street railway in Korea, whose operation he describes:

On this railway the average number of passengers carried daily in 1904 was 11,442; in 1905, 12,963; and in 1906, 13,714. The car mileage was 145,110 miles in 1904 (five months), 326,793 in 1905, and 398,616 in 1906. The equipment included 37 passenger and 18 freight cars. The company operates 12 miles of tracks with overhead electrical equipment.

The gross receipts in 1906 were $98,221 and the net earnings $25,324, the increase in net earnings in 1906 over 1905 being 48 per cent. The company announces that the operating expense has been reduced from 80 per cent of the receipts in 1905 to 74 per cent in 1906, but with the decrease in the cost of coal and with an increased service without addition to the expense of management it is hoped that a further material reduction will occur in 1907.

With the exception of an injury to a boy, who fell under the car while stealing a ride, no accidents occurred during 1906, and the efficiency of the Korean motormen and conductors is becoming more and more apparent. A reward, in the nature of a bonus, is paid by the company at the end of each month in which no accidents occur.

ITALY.

RATES FOR LIVERY MOTOR CARS IN MILAN.

Consul James E. Dunning, of Milan, supplements a former report upon the use of motor conveyances in that Italian city as follows:

There are 50 benzine motor cars owned by a private company in Milan. They are in three sizes—12–16, 16–24, and 28–40 horsepower—and are of the best Italian makes, handsomely fitted up. Each car has a taximeter, about the size of a watch, fitted to the axle at the hub of the right fore wheel, which shows the distance run. The rates for hire of these cars are: For the smallest size, a fixed charge of $8 a day plus 25 cents a mile; for the next size, $10 a day plus 29 cents a mile; and for the largest size, $15 a day plus 45 cents a mile. These charges per mile cover the benzine expense and all other charges. The drivers are paid from $20 to $40 per month, and patrons are expected to provide food and lodging on the road and a tip at the end of the trip. The men are furnished with a livery by the company. Each car carries a complete repair outfit, and the drivers are experienced mechanics. The firm states that its net earnings are fairly satisfactory.

ASIATIC TURKEY.

AUTOMOBILES MAY REPLACE BAGDAD CARRIAGE LINE.

Consul William C. Magelssen states that it appears the carriage service established between Bagdad and Aleppo, in Asiatic Turkey, previously reported by him, is not proving successful, and adds:

The matter of establishing an automobile service was discussed by me with the Governor-General and the suggestion made that inasmuch as the local government is expending money for building a road in certain rough places between the cities of Bagdad and Aleppo that it might be worth while looking into the feasibility of such a service. The Governor-General was enthusiastic, and stated that he had considered the advisability of introducing motor cars.

If American builders of automobiles will send catalogues and full description of their freight and passenger machines, with price lists, I may be able to induce the managers of the stage service to make a trial with American automobiles. There is no electricity obtainable here and the motive power must be petroleum or gasoline. Exporters should quote prices c. i. f. Beirut and Bassora.

MINERALS AND METALS.

THE WORLD'S MINES.

COLOMBIA.

INDUSTRY OFFERS OPPORTUNITIES TO MEN WITH ENERGY AND CAPITAL.

Consul Pierre Paul Demers, of Barranquilla, sends a very complete review of the mining situation in Colombia. In part, Mr. Demers says:

Mines which were successfully worked a century ago by hand are to-day unexploitable without resorting to scientific processes. There are in Colombia many obstacles in the way of successful mining; the scarcity of labor, the bad climate of many good mineral regions, the difficulty of communication, the scarcity and high price of provisions, and the lack of confidence inspired by a long period of political disturbance, which, however, is being gradually restored.

The section of Colombia most noted for its gold production is the Department of Antioquia. The Cauca comes next, and then follow the departments of Bolivar, Tolima, Santander, Magdalena, Boyaca, Cundinamarca, in the order of importance indicated. Panama is left out, as it no longer forms a part of the Colombian entity. Antioquia comprises an agglomeration or cluster of cordilleras, which seem to have been unusually favored by nature for the formation of gold veins. Unfortunately almost every placer mine there has a proprietor, who is always disposed to sell at a high price, but rarely exploiting his own property. Some parts of Antioquia are yet to be opened to exploitation, to wit: The mountains to the east and southeast of Remedios, the rivers Tamar and Ite, the region called "Alcante," the left-bank tributaries of the Magdalena (San Bartolome, Nare, and La Miel), where placer and quartz mines have not yet been seriously prospected, and the northwestern region (Rio Sucio, Dabeiba, Ituango, Sinitabe, etc.), almost deserted at the present time. On the other hand the rich groups have been and are now actively developed. The Antioqueño pays annually to the fisc the small tax that assures the owner the perpetual ownership of his mine without ever exploiting it himself, and he lives in the hope, sometimes realized, of running across a foreigner (the American) who will buy him out at a good price.

THE EXPLOITATION OF MINES.

The exploitation of the quartz mines or gold veins (in Colombia gold is often found mixed not only with quartz, but also with mica schists) requires much more work and preliminary expense than that of alluvial mines, or free gold, consequently the number of people engaged in that line is more reduced. Many such mines have remained unproductive for causes of infiltration or caving in. They all possess their history as to richness, frequently very exaggerated. These exaggerations especially take place with regard to the old Spanish mines, which are discovered and reexploited from time to time. Nevertheless, it is a fact that some of them must have been very rich, considering the means and methods used in defending as well as hiding their approach and entry. Ancient tunnels are still found from place to place, with iron doors and locked with enormous bolts, as though they had been full of fabulous treasures. The miners and aboriginals of Antioquia are, as a rule, very sagacious and alert in the transaction of business, and the foreigner must needs be on his guard all the time.

The region of Remedios-Zaragoza is generally hot and unhealthful, and malarial fever is prevalent. The country is not settled, and beef cattle have to be brought in steamboats some 150 miles. An ordinary beef costs, on the spot, about $40. As a rule, it is possible to find at that point a sufficient number of laborers, generally fair miners. The price of labor is from 60 to 80 cents per day, including board. Women, who are also employed, work for one-half that amount. This is the part of Antioquia where labor is dearest.

A REGION OF UNKNOWN RICHES.

The Tigui (Guamoco) region in all probability possesses still unknown riches and presents a vast field to modern prospectors. The Tigui region has been little worked by the Spaniards, for lack of knowledge as to the bringing of the water on the elevated parts for hydraulic purposes, and can be considered virgin. Since 1890 various companies have been organized for its exploitation. The same as on the Porce, the banks of the Tigui can be easily worked at different points by means of small lateral dams, making it possible to operate on alluvions lower than the level of the water. The auriferous mud, as a rule, has a thickness of 3 feet, sometimes as much as 10 feet, and its gold is very fine. Isolated pan washers make in this way from $3 to $5 a day.

Gold is found almost everywhere in Colombia, but is vastly spread, rarely existing in any great quantities in determined places. Going up the Cauca River, and above the point where it receives the Nechi, are found the alluvial mines of Caceres, where many American companies are now operating. In that region a good territory is yet to be exploited, with excellent hydraulic conditions, abundance of water, proper currents, and dumping facilities—the three cardinal requisites for the proper working of an alluvial mine.

All the rivers emptying into the left bank of the Magdalena are auriferous. Lying between the Cauca and the high Magdalena many unexploited gold veins are to be found, as also alluvions at the foot of the hills west of Purificacion, Natagaima, and Neiba.

DEPOSITS THAT HAVE NOT BEEN EXAMINED.

In the Department of Cauca, from the Patia River to the San Juan, all the rivers emptying into the Pacific Ocean are auriferous, but, excepting a few, have been little examined. Various ancient mines are to be found in the neighborhood of Popayan and in the regions called Cartago, Anserma, and the Vega de Supia.

The Choco region (northwestern part of the Cauca Department) is a vast territory whose hydrographical and orographical situation bears a great deal of analogy to the western coast of the United States, and would seem to belong to the same geological period of formation, and it is to be supposed that the same factors, which formed the great mines on the western slope of the Rocky Mountains, acted identically on the western slope of the Cordillera of the Andes. The Atrato River and the valley of the San Juan River cover an immense region of more than 5,000 square leagues of alluvion, of which a good part is rich and exploitable. The entire population is of African descent, except for a few thousand civilized Indians.

The mining regions of Medio form an immense deposit. Millions of dollars have been extracted from the Choco since the time of the conquest, and its mines still contain, upon many points, from 1 to 2 ounces of gold per cubic yard. On the divide, between the heads of the Atrato and the San Juan, is found the "Tado" group, which produces platinum, until lately exploited by a few isolated Indians only, but recently made a Government monopoly. In 1905 the Choco produced 661 pounds of platinum, mostly from Tado, the San Juan, Condoto, and Iro.

PETROLEUM, COAL, AND COPPER.

The Bolivar and Atlantico Departments, whose respective capitals and principal cities are Cartagena and Barranquilla, contain many important deposits of petroleum. A Canadian company has been recently organized and is now boring prospective wells near the Atlantic Ocean. A concession has been granted a Colombian for the exploitation of the petroleum and coal lying between the Sinu and the Gulf of Darien, but nothing has been done as yet by the concessionaire by way of actual prospecting. Copper deposits are also found in the Department of Bolivar, near the lagoon of Simiti, which has water communication with the Magdalena. A Barranquilla company has lately started preliminary works on a copper mine located at Sabaneta.

The Department of Cundinamarca, capital Bogotá, although poor in precious metal, is quite rich in coal deposits. Being far from water transportation, its coal is only used for local industries and a few miles of still unfinished railroads. The Department of Boyaca is more or less in the same condition. Coal is found, and two emerald mines are the property and monopoly of the Colombian Government, one of which furnishes annually a good revenue to the Government. In the Department of Santander quartz mines exist, which were worked by the Spaniards and were, according to the legend, very rich. They are mostly unproductive to-day. Petroleum is found north of Cucuta. The Magdalena Department, capital Santa Marta, is practically unexploited with regard to its minerals. The presence of gold, however, is noted in some of its rivers, which, coming down from the mountains, throw their waters into the Caribbean. South of the Goajira Peninsula, near Rio Hacha, large coal deposits have been found that could easily be made exploitable by building a short railroad to the port.

A LARGE FIELD FOR THOSE SEEKING FORTUNES.

Colombia offers a large field to the mining explorer, the prospector, and the investor. She possesses immense mines of alluvion with an average return of 50 cents a ton. As to the quartz mines, they are almost virgin, mostly on account of the lack of transportation, lack of passable roads in the high Cordilleras, the absence of practical men, and the scarcity of capital. The programme of the new Colombian Administration is to construct more railroads, and the work in that direction is now progressing. When these things are accomplished, and the Colombian Government succeeds in extinguishing forever the revolutionary spirit which has been her calamity for time immemorial, scaring away foreign capital, then better times will be in store for those engaged in mining pursuits. I can not exhort, in a positive and absolute manner, American miners to come here with well-settled ideas of getting rich quick. Success is possible, but with much work, energy, perseverance, special knowledge, study of the country, circumspection, economy, a good quantity of dollars, according to the size of the venture, and last, but not least, health, and much of it—all of which are necessary in Colombia.

Many failures have been caused through the deficiency of the prospectings, or preliminary works. I know of miners who came down here for the first time, bringing their machinery along with them, and without even knowing as much as anything definite as to the district or region to be prospected, resulting naturally in the fact that the machinery was found rotten and eaten up by rust and "comejens" when the time came for real operations. Bad judgment has many times been displayed in the purchase of unsuitable machinery, and the main rivers abound in discarded appliances which never served the purpose for which they were introduced. The character of the native laborer, as a rule, is good, but he must be ruled by kind words. The lands are generally adapted to cultivation, and few are the mines near which a plantation can not be made, especially on the low lands, where maize, bananas, yucca, sugar cane, etc., can be grown and pasture had.

Modern machinery and appliances are often found in Colombia on a very small scale. Primitive methods of mining are still in use by the natives and small companies without much capital.

According to a statement published in the "Revue Diplomatique" of November 4, 1906, the gold produced in Colombia since the conquest up to 1886 can be valued at $639,000,000 and the silver at $33,000,000. The production of the nineteenth century (up to 1886) was $208,000,000. Of the total $500,000,000 came from placers and the remainder from veins.

[An excellent map and a copy of the mining laws accompany the report and are on file at the Bureau of Manufactures for public inspection. There is also on file, sent by William Heimke, secretary of legation at Bogotá, a copy of the law of May 14, 1907, with a translation, in regard to mines.]

GERMANY.

IMPORTANCE OF COAL, SMELTING, AND METAL INDUSTRIES.

Consul George N. Ifft, of Annaberg, reports that according to statistics just made public the total value of the mineral output of Germany for 1906 was $389,606,000, an increase of $52,122,000 over the previous year. The consul continues:

Of this total 82.8 per cent was coal, 6.3 per cent iron, and 3.97 per cent nitrate of potash. These were the three most important mineral products. When these figures are considered in connection with the fact that Germany has a considerable smelting industry (in 1905 the mining and smelting industries furnished employment for more than 900,000 workmen); that for the operation of these smelters ores were imported to the amount of $61,500,000 in 1906 (40 per cent of which came from Spain); that besides these ores crude iron, ingots, etc., to the value of $7,000,000 more were imported; that Germany has, besides, enormous iron, steel, and other metal industries which in 1905 employed nearly a million and a quarter workers, some idea is obtained of the difficulties under which Germany has won her position as one of the great industrial nations.

Consider in this connection that for 1906 $1,010,000,000, or about half the total imports of Germany, were raw materials for industrial purposes, that for the same period 28 per cent of her imports were food products to feed the workers, and that 64.3 per cent, or $1,070,525,000, of the exports were manufactured articles, and the picture of Germany as an industrial nation becomes still more vivid. That, under such conditions, the wages of labor are low and almost everything else high in price is not surprising. Nor is it to be wondered that the German is a persistent seeker for foreign markets.

SAXONY'S SCHOOL OF MINES AND SMELTERS.

The State owns most of the mines and smelters, and from such ownership grew the Royal Saxon School of Mines at Freiberg, which is still the best-known mining school in the world. The mines have been practically worked out for centuries, their ore bodies exhausted; the end of the smelters is in sight—they have been operated without profit and sometimes at a loss for years—but the School of Mines remains. A large percentage of its students are foreigners, and German students who are graduated from it mostly go abroad to find positions as mine experts, superintendents, etc.

The last available official figures for the mining and smelting industry of the Kingdom of Saxony are those of 1905. (Those for last year and this year will not differ materially.) There were then employed in the mines 32,180 workmen and officials. Of these, all except 2,587 were employed in the coal mines. The value of the product of the mines was: Coal, $13,725,698: precious minerals, $515,984. The precious minerals consisted of silver, lead, tin, copper, arsenic, bismuth, cobalt, nickel, tungsten, sulphur, etc. An investigation last spring, with a view to reopening some of the long abandoned tin mines of the district, has met with little encouragement. I know of only two at which work is actually proceeding. Two or three others still operate in a small way on account of the value of the by-products. The Royal smelters, at Freiberg, in 1905 employed 1,251 men, imported foreign ores to the value of $2,250,000, and turned out a product valued at $3,875,000.

SYRIA.

ENGLISH AND AMERICAN INTEREST IN RESOURCES OF PALESTINE.

In his report, "Bitumen in Syria," of January 14, 1905 (Monthly Consular Reports for March, 1905), Consul-General G. B. Ravndal called the attention of American capitalists to the asphalt fields of Syria and Palestine. He now contributes the following additional information from Beirut:

At the time of my 1905 report the only deposits exploited were those at the headwaters of the Jordan, the Hasbeya pits, the product of which is still sold to America and Europe for use in the manufacture of black varnish (for furniture, leather, etc.). The Hasbeya mines have been lying idle for several years, and it is old accumulated stock that is on the market.

In my report alluded to, I recommended that efforts be made to obtain a concession from the "Liste Civile" at Constantinople for the further development and exploitation of the Hasbeya bitumen fields. "Eventually the concession could no doubt be extended so as to include the Dead Sea and Latakia asphalt, and perhaps the phosphates of the Jordan Valley and other natural resources of Palestine, which, for industrial and commercial purposes, are as yet untouched, including the mineral waters and salts of the hot springs between Lake Tiberias and the Dead Sea."

My recommendation still holds good and stands for what it is worth, except that in the meantime an Anglo-Egyptian company has obtained from the Imperial Government a concession covering the Latakia Mountains. Asphaltic layers have been found near Kferie, a village about 25 miles northeast of the port of Latakia, along the road leading toward Aleppo, which have been declared by competent mining engineers to be not only rich in asphalt but also practically inexhaustible. Application has been made by the company for the right to construct a light railway from the prospective mining district to the port of Latakia, and also proper harbor facilities.

Some two monthe ago I had a conversation with an American who is now buying up asphalt-bearing lands in the southern districts of Palestine, in the region around Beer-Sheba and not far from the Egyptian boundary. I sincerely hope the enterprise will prove successful. American trade in western Asia will be greatly encouraged and promoted by American investments of capital out here in public works, such as railways, electric street systems, telephone lines, tourist resorts, as well as in the development of natural resources which lie dormant.

ASIATIC TURKEY.

PRODUCTION AND MARKET PRICE OF ANTIMONY.

At the request of an American firm interested in the mining of antimony in Asia Minor, Consul E. L. Harris, of Smyrna, sends the following additional notes:

The total production of antimony in Asia Minor is about 1,000 tons per annum. The mines of Balukissar and Scios are not being worked at present, on account of the low prices ruling in the market. The value of antimony must stand high in order to permit the working of these mines, inasmuch as the cost of extraction is much greater than in those of the mainland.

Antimony is sold on an analysis basis. Ore containing 50 per cent of antimony is quoted at present at about $63 per ton. Conditions governing sales are cash for 75 per cent at date of shipment, and payment of the remaining 25 per cent after arrival at port of destination and analysis of the ore. Tests of Turkish ore show from 50 to 55 per cent antimony, and even 60 per cent has been reached, although the latter figure is very rare.

COAL AND COKE.

GERMANY.

PRODUCTION AND CONSUMPTION OF FUEL IN THE EMPIRE.

Consul S. P. Warner, of Leipzig, reports that the association for mining interests in the district of Dortmund recently published the following interesting statistics in regard to the production and consumption of coal in Germany and other countries in 1906:

The total coal production of the world in 1906 is estimated at 1,000,000,000 long tons, as against 940,000,000 tons in 1905. Of this total the United States produced 38 per cent (36.8 per cent in 1905), Great Britain 25 per cent (26.1 per cent), and Germany 19 per cent (18.9 per cent). Austria-Hungary, France, and Belgium produced 4.5, 3.4, and 2.4 per cent, respectively. Germany's production of hard coal in 1906 was 137,100,000 tons, an increase of 15,800,000 tons, or 13 per cent, over the output of 1905. The value of the total output of hard coal was $291,550,000, as against $249,900,000 in 1905, an increase of $41,412,000, or 16.7 per cent. The average price of a ton of hard coal was $2.13, as against $2.07 in 1905.

The output of soft coal in 1906 was 56,400,000 tons, an increase of 3,900,000 tons, or 7.4 per cent, over the output of 1905. The value of the soft coal output was $31,273,200, an increase of $2,189,600, or 7.5 per cent, over 1905. The average price per ton was $0.55, as in 1905. Since 1885 the production of soft coal in Germany has increased 267 per cent, whereas the production of hard coal has only increased 135 per cent.

The total value of the products of the German mining industry in 1906 was $389,606,000, an increase of $52,122,000, or 15.5 per cent over the total value in 1905. Of the total value, hard coal represented 74.8 per cent, soft coal 8 per cent, iron ore 6.3 per cent, and potassium salt 3.9 per cent—the four together 93 per cent. The number of persons employed in the mining industry in Germany in 1905 was 661,000.

According to the figures published by the association, the United States consumed 368,000,000 tons of coal (4 tons per capita of the population) in 1906, Great Britain 180,000,000 tons (4.1), and Germany 192,000,000 tons (3.2). Since 1885 the greatest increase in the consumption of coal has been in the United States. The increase in Germany has also been very large. In 1906 the quantity of coal consumed in Germany was, for the first time, greater than the quantity consumed in Great Britain. This is due to the fact that nearly one-third of the coal consumed in Germany was soft coal, the heating power of which is much less than that of hard coal, whereas in Great Britain only hard coal was used.

As regards the amount consumed per capita of the population, Germany is still surpassed by Great Britain, the United States, and Belgium.

FRANCE.

LARGE INCREASE IN RETAIL PRICE OF COAL—THE IMPORTATIONS.

Consular Clerk M. B. Kirk reports that Parisians will pay a much increased price for coal this winter, and that one authority states that the coal prepared for the special French stoves will increase as much as 60 cents per hundred kilos (220 pounds). Mr. Kirk gives the following details of the fuel market:

The large increase in price of all coals is caused mainly by the catastrophe at Courrières, which has led to a loss in output from that mine alone of 700,000 long tons, the cost of the installation of larger electric plants, and the many strikes which have agitated the coal districts. The visible stock of coal for the first six months of 1906 was 9,579,626 long tons, against an average of about 11,500,000 long tons during corresponding months of each of the three previous years. The visible coal supply for 1907 will show a still further decrease, caused mainly by labor troubles.

The production of coke in Pas de Calais and Nord, the principal coal-producing districts, was 1,678,823 long tons in 1906, against 1,772,795 long tons in 1905; the production of agglomerates (briquettes, etc.) in the same districts was 956,243 long tons in 1906, against 972,129 long tons in 1905. The total decrease in the coal output in 1906 as compared with 1905 was 2,201,881 long tons.

The imports of coal, coke, and agglomerates, in long tons, for the past two years have been:

Country.	Coal.		Coke.		Agglomerates.	
	1906.	1905.	1906.	1905.	1906.	1905.
England	9,543,530	6,813,554			137,210	110,869
Belgium	4,131,110	3,653,638	468,030	500,695	412,710	304,763
Germany	1,519,620	844,504	1,753,150	1,114,855	42,600	26,100
United States	4,270	7,407				
Other countries	517,980	501,744	41,670	20,230	2,810	12,166
Total	15,716,510	11,820,847	2,262,850	1,635,780	595,330	453,898

The imports of these fuels during the first eight months of the year 1907 in long tons have been: Coal, 10,804,120; coke, 1,413,620; and agglomerates, 474,580. Of the coal 260 long tons came from the United States, compared with 3,330 tons during the same period in 1905 and none in 1906.

Opposing the above opinions, a London paper reports that a reduction in the price of coal is to be made, and gives as reasons the annual closing of the Baltic trade, as navigation will soon cease in those waters, the falling off of the coal trade with Germany, and quieter trade and the decline in the boom of iron.

WALES.

ADVANTAGES OF THE NEW SYSTEM OF MAKING BRIQUETTES.

Vice-Consul A. S. Phillips, of Cardiff, writes that the improvement in the method of making fuel briquettes in Wales under Shedlock's process consists in forming a pitchy deposit on each particle of coal or other carbon in as thin a film as possible, thereby producing a nearly smokeless fuel. He adds:

In other words, the idea is to render briquettes so made capable of producing in combustion the maximum of heat with the minimum of unconsumed vapor. In fact, the process is a combination of tar distillation and fuel briquette manufacture. It is carried into effect by mixing a liquid hydrocarbon tar with any suitable solid carbonaceous matter, preferably coal, in such quantity only as will produce, upon being subjected to the necessary temperature in closed vessels, sufficient pitch to bind the particles of coal, upon being subjected to the necessary pressure, so as to form a perfectly homogeneous mass, capable of resisting rough treatment.

In the ordinary method, as at present practiced in the manufacture of fuel briquettes, pitch is added to the coal in such quantities (from 8 to 10 per cent) as to produce in combustion so large a volume of dense smoke that it is found impossible to supply sufficient oxygen for its perfect oxidation. The briquette produced under the new system contains a maximum of 3 per cent pitch, and this is so intimately combined with the solid carbon that the fuel in ignition burns with a clear, solid flame, thereby avoiding loss of calorific value by the production of heavy volumes of smoke. In addition to the foregoing advantages claimed for the Shedlock system of briquette manufacture there is the additional benefit of economy of production, for in general the cost of pitch is about twice as much as that of tar, consequently 5 per cent of tar will be one-fourth of the cost of pitch when 10 per cent is used. Five per cent of tar is the quantity required, when combined with coal, to produce the necessary 3 per cent of pitch to form, under the new system, a solid briquette of the required homogeneity, and the 2 per cent of volatiles given off during the process are recovered and are of nearly the same value as the 5 per cent of tar originally used. It will thus be understood that a great economy in the manufacture of the briquette is thereby secured. The cost of treatment of the materials is practically the same as under the ordinary method now practiced in making fuel briquettes.

[The address of the inventor of the new process is on file at the Bureau of Manufactures.]

AUSTRALIA.

PROGRESS OF COKE MAKING IN NEW SOUTH WALES.

Consul W. F. Goding, of Newcastle, sends the information that the entire output of the coke ovens of the northern and southern districts of Australia is sold to the end of June, 1908. He adds:

There are but two companies making coke in the northern district and five in the southern. One Newcastle company has a monthly output of 1,700 tons, of which about 300 are exported to the west coast of North and South America and to Manila. This coke is made from washed coal and averages 12½ per cent of ash. The output of the other Newcastle concern last year was 6,064 tons, most of it being used locally, and was made from unwashed crushed coal, with an average of 13½ per cent of ash. The capacity is 320 tons per week. The coal property belonging to this company is nearly worked out, after which the company will cease to exist. The coke manufactured by these companies brings at the present time, in bulk, 23s. ($5.59) per ton f. o. b.

The capacity of each of the companies of the southern district is about 20,000 tons of coke per annum, while but 10,000 tons are produced, the output being sold to June 30, 1908. About one-third is shipped to San Francisco, Vancouver, and Manila. The price of this coke in bulk is 18s. ($4.37) per ton f. o. b. It is much cheaper to ship coke in bulk, as the cost of bags is heavy, the price then being 32s. ($7.78) per ton.

Sixty new ovens are being prepared in the southern district, and some of the coal operators in the northern district are completing plans for the construction of several, which will greatly increase the volume of coke produced in these coal fields. The selling price of coal here was raised to 11s. ($2.67) per ton on October 2, and doubtless the price will reach 12s. ($2.92) in a few months.

UNITED KINGDOM.

PRODUCTION OF COKE AND BRIQUETTES.

Consul John L. Griffiths, of Liverpool, states that the British Government home office general report on mines and quarries for 1906, just issued, contains particulars of the output of coke in the United Kingdom in 1906, and the quantity of coal consumed in its manufacture. These he summarizes:

While no compulsory method has been provided for obtaining the information, it may be assumed that the figures are substantially correct. They include both blast-furnace and gas-works coke. The total coke production is given as 19,296,526 tons, valued at $61,070,273, as compared with 18,037,985 tons, valued at $51,710,451, in the year 1905. These figures show an increase of 1,258,541 tons, representing $9,359,822 in value, as compared with the previous year.

The quantity of coal used in the manufacture of coke is given as 35,402,677 tons, compared with 33,452,943 tons in 1905, showing an increase of 1,949,734 tons. [The coke output and the coal consumed in the principal coal fields are given in detailed tabular statistics furnished by the consul, which may be consulted at the Bureau of Manufactures.]

SOUTH AFRICA.

ACTIVE EXPORT TRADE FROM THE NATAL MINES.

Consul Edwin S. Cunningham makes the following report on the coal industry of the South African colony of Natal, the exportations of which pass through Durban:

The output of the Natal collieries during the first eight months of this year was 929,115 tons, against 800,110 tons during the same period last year, an increase of 12¾ per cent. It is a very satisfactory testimonial to the quality of Natal coal, that the demand justifies this increased output. During the same period there has been bunkered and exported 579,910 tons, considerably the largest quantity that has ever been required for this purpose in the same time. Natal coal now is exported to Mauritius, Bombay, and also to Portuguese East Africa, as well as to all British South African ports. There have been five shipments this year to Port Pirie, to supply a deficiency there, created by labor troubles; but it does not seem likely that the superiority claimed for the Natal coal over the Australian coal will establish a permanent demand at that port. A cargo of 3,000 tons is loading at this time for Buenos Aires, and this will be followed, within a month, by a trial consignment.

METALLURGICAL PRODUCTS.

FRANCE.

SOCIETY FOR MANUFACTURE OF EXTENSIVE LINE OF FINE ALLOYS.

Consul C. P. H. Nason, of Grenoble, submits a report on new metallurgical products in France, as follows:

One of the largest electro-metallurgical societies in France for the manufacture of metals and refractory alloys used in the making and refining of steel has its headquarters in this consular district. It has developed and is now exploiting in a constantly increasing degree the special processes discovered by a distinguished French engineer. Beginning in 1899 with a small plant of 1,000 horsepower, it put in operation another in 1903 across the border in Switzerland of 5,000 horsepower, another in the same year in France of 8,000 horsepower, and still another in 1904 of 5,000 horsepower, so that at the present time, aside from the first experimental plant, it has at its disposal a total force of 18,000 horsepower. This year there will be completed a fourth plant with a capacity of 5,000 horsepower.

STILL GREATER POWER—VARIOUS PRODUCTS.

This enormous motive force comes wholly from the utilization of the rivers and waterfalls which have their sources in the mountains of the Alps. Other falls are controlled by this society, which, when captured and canalized, as they will be in a little time, will carry the total of available force up to 40,000 or 45,000 horsepower. This society owns important mines in Portugal and France whence is extracted a good part of the wolframite used in its processes.

The metals and alloys produced at the several works of this society and put on sale are: Ferro-chrome, ferro-tungsten, ferro-molybdenum, ferro-vanadium and pure vanadium, ferro-silicon, titanium and ferro-titanium, ferro-manganese, cupro and nickel vanadium, silico-chrome, silico-manganese, ferro-boron, ferro-tantalum, ferro-uranium, cupro-silicon, etc.

The society at the present time is furnishing material to prominent European establishments manufacturing special qualities of steel [a number of which the consul names and which are listed at the Bureau of Manufactures]. A still larger number of factories make use of the ferro-silicon produced by this society, while its name figures prominently on the list of contractors for the national workshops of the army and navy, such is the appreciation in which its rare alloys are held.

The brief analysis which follows of some of these products will suffice to show the diversity of the alloys manufactured, together with the care and regularity with which are obtained all the percentages of rare metals and carbon.

FERRO-CHROME.

This product shows about 65 per cent of chromium. The chromium is extracted from chrome minerals coming from India, New Caledonia, Turkey, and Canada, which generally give about 50 per cent of chromium (cr. 2.03), the remainder being 35 per cent of oxide of iron and 15 per cent of magnesia, silicon, and aluminium. By the addition of different dissolvents, basic or acid, impurities are eliminated and a ferro-chrome is obtained, the purity of which is thoroughly satisfactory for the manufacture of the finest steels.

There exists quite a series of ferro-chromes, and for various purposes, of which the principal are these: Ferro-chrome for iron sheathing and projectiles, showing 65 per cent of chromium, 8 to 10 per cent of carbon, and 2 to 6 per cent of silicon, according to the process of manufacture employed by the different factories. Qualities with 4 to 6 per cent of carbon serve specially for the manufacture of crucible steels, for war material, and the making of steel tools.

Ferro-chromes with a percentage of carbon of from 4 to less than 1 per cent are destined for the manufacture of crucible steel tools. So soft are these ferro-chromes as to be almost all forgeable. The percentage of sulphur and phosphorus in every quality of these ferro-chromes is always less than 0.03 per cent. It may be seen from this analysis that here is a whole series of ferro-chromes which replace very advantageously those produced by blast furnaces.

FERRO-TUNGSTEN.

The society makes a specialty of this product, the sales of which amount to several million francs (franc, 19.3 cents) per year. Two qualities in particular are made—the one for crucible steels and the other for water tempering of quick steels, a quality that shows about 85 per cent of tungsten and a maximum of 0.3 to 0.5 per cent of carbon. It is claimed for this tungsten that it has the great advantage over tungsten in powder form of containing iron already and of not disaffecting the steel crystals, as the powder often does.

Repeated trials have shown that steels made with ferro-tungsten are not only more economical, but the quality is much more uniform than those made with tungsten powder. Economy is realized through the methods of production, the details of which can not well be given here, and by reason of the purchase price of ferro-tungsten, which is generally from 5 to 8 per cent less than that of tungsten in the powder. Naturally the quality of the ferro-tungsten itself necessary to produce the results obtained by the new processes must be considered, but these results have always followed with the alloys referred to when employed under proper technical conditions.

Not only has this society produced a ferro-tungsten for crucible steel, but incidentally while developing the manufacture of pure steels for springs and other purposes—steels that are often manufactured in the Martin oven, and in which the degree of tungsten is less than 2.5 per cent—it has created a quality showing 60 to 70 per cent of tungsten, which has the advantage of dissolving more rapidly and of oxidizing less owing to a greater percentage of carbon, varying from 2 to 3 per cent. This ferro-tungsten is employed to greater advantage than the powder because by heating it beforehand in a Martin oven, a Bessemer retort, or in a reduction of this retort (Robert or Tropenas) the ferro-tungsten on account of its great specific weight traverses immediately the scoria in fusion and is dissolved without loss in the steel. It can thus be introduced at no matter what moment, and especially at the moment when the processes of the oxidation of the carbon in the steel are finished. This ferro-tungsten is sold, as is always the case, on the basis of pure tungsten, the iron being counted zero. The selling price is about 20 per cent less than that of tungsten powder.

MARKET FOR AMERICAN METAL GOODS.

OPPORTUNITIES FOR SALE OF IRON AND STEEL MANUFACTURES.

In answer to inquiries from the United States, Consul-General Robert P. Skinner, of Marseille, furnishes the following information concerning the outlook for American metal roofing, wire, and merchant iron and steel in France:

The outlook is very favorable for American metal goods in France, in spite of the rates of duty which tend to keep out all foreign metal goods and which fall with especial severity on American products, as the latter are subject to the maximum schedules. Upon imports of iron and steel American manufacturers must pay in France a rate of duty varying from 38.6 cents to $1.93 per 220 pounds more than is imposed on similar goods imported from other countries, and our manufacturers must overcome this first barrier to the extension of their business before proceeding further.

While few foreign manufacturers of iron and steel are now doing business in France, there are times when they can do so, and they are always in a position, prices and qualities being equal, to share in the very considerable French export business to neutral markets, which is controlled by various wholesale firms in this country. There is a steady demand for corrugated sheets for roofing purposes for reexport or for direct shipment to Morocco, the west coast of Africa, and the Levant, and the same is true of barbed wire, nails, and indeed almost every class of ironmongery. One of my informants, with a total annual trade in such goods of $5,000,000, has a branch at Antwerp, whose operations are limited to receiving and forwarding imported materials. This one concern can absorb from 200 to 250 tons of corrugated sheets at Marseille annually and has also a large trade through its branches at Lyon and Nice, and at Hanoi, Saigon, and Haiphong (French China). Metal sheets are wanted 78.7 inches by 29.53 inches and 0.0195 inch in thickness. Roofing of this kind is now worth $9.84 per 220 pounds in Marseille, and to be attractive for French consumption must be offered at around $8.88, delivered, in terms which would include, of course, freight and $2.70 or $2.89 duty, according to thickness.

Barbed wire is worth 48 cents to 58 cents per 100 meters (109.36 yards), and the rate of duty is $2.89 or $5.79 per 220 pounds, according to diameter.

PIG IRON AND ROOFING METAL—IMPORT STATISTICS.

A few years ago the market was such that a considerable amount of American pig iron was imported at Marseille, and it gave special satisfaction. Since then, my informants say, almost nothing has been done in the sale of American iron and steel products in this city.

Owing to the cheapness and, from some points of view, superiority of earthen tiles for roofing purposes, very little metal roofing finds a sale for use in this particular region, but there is an increasing demand for it in Africa, where the methods of transportation cause a great deal of breakage ordinarily of earthen tiles, and where the difficulty encountered in obtaining intelligent labor makes it necessary to use materials that are indestructible and easily applied.

The imports of iron of all classes into France in 1905 and 1906 were 17,632 tons and 26,351 tons, respectively. All but 527 and 400 tons, respectively, were imported from the United Kingdom. The imports in 1906 included the following in tons: Thin sheet iron, 4,580; sheet iron more than 0.0234 inch in thickness, 1,600; steel rails, 2,571; steel wire, 3,982; billets, 11,014; hot-rolled sheet steel, 2,440; cold-rolled sheet steel, 715; fine tool steel, 2,394; axles and tires, 734. [A list of dealers which accompanied Consul-General Skinner's report is on file in the Bureau of Manufactures, where it may be consulted by interested parties.]

SPAIN.

LARGE SUPPLIES IN THE KINGDOM FOR PRODUCTION OF ALUMINUM.

Consul-General B. H. Ridgely, of Barcelona, advises that the Official Gazette of Madrid has just published the conclusions of an interesting report sent to the Spanish Central School of Industrial Engineers by a pensioned engineer of that school sojourning in Germany. The report deals with the process of manufacturing aluminum and the modern applications of this metal, concerning which Mr. Ridgely writes:

The author, in dealing with the electrolysis-igneous method, mentions the three principal ones—the Minet system (French), Hall's system (American), and Hergoult's system (German). The Neuhausen manufactory (Schaffonen), which is worked by Hergoult's system, is situated on the Rhine cascades (Swiss Alps), and has a water-force concession of 5,000 horsepower, 20 cubic meters (1 cubic meter=35.316 cubic feet) per second at 20 meters (1 meter=39.37 inches). According to the author, this system, which is the most important one, may be defined as consisting of the electrolyzing of alumina dissolved in fusible cryolite. The originality of the system has been much discussed, but, putting aside scientific criticism, Hergoult has been the first in electrolyzing alumina, which really constitutes the essential feature of his patent. This is practically proved by the fact that aluminum is quoted at 3.5 or 4 francs per kilo (1 kilo=2.2 pounds) at the present time, whereas in 1889 it was quoted at 50 francs or more.

The resistance of iron is greater than that of aluminum with regard to volume, but is inferior as regards weight. On the other hand, the alloy of aluminum with copper has a much greater resisting power than steel. Aluminum has no competitor with regard to density, resistance, and chemical properties, qualities which are in great demand to meet the wants of modern progress, especially in machinery applied to locomotion. Excepting iron and zinc, aluminum is the cheapest metal as regards weight.

NECESSARY MINERAL COMBINATIONS.

According to the author of the report, the increasing prices in the European markets, notwithstanding the ever-increasing demand for lead, iron, and copper, lead one to believe that the supply is not equal to the demand and that this is not of a transitory character. On the other hand, the industrial applications of aluminum and its production are on the increase. Notwithstanding the fact that this is perhaps the mineral most abundantly spread all over the surface of the earth, and not likely to be exhausted for many centuries to come, its production has to contend with the great difficulty of being most frequently obtainable only by separation from impurities with which it has great affinity, such as iron and silica. Pure alumina is only met with in small quantities. According to the author of the report, in order to be able to produce aluminum economically it would be well to possess a waterfall as motive power, situated in a district where coal and an abundance of clay might be easily obtained.

In some of the provinces of Valencia and Andalusia, and in other regions of Spain, there are deposits described as containing alumina. As to cryolite, when the only known deposits in Greenland were monopolized by Americans Europeans had to pay dearly for it, but nowadays this mineral is economically manufactured from spattofluor. This mineral is to be found in Irun (Guipuzcoa), Spain, and quite abundantly among lead and copper ores. The author, believing that there exist in Spain all the necessary elements for producing aluminum and its industrial applications, expresses the hope that capital may be found for the purpose of establishing a factory in this country.

CHILE.

GOOD OPENING FOR SALE OF AMERICAN MACHINERY.

Consul Alfred A. Winslow, of Valparaiso, writes that there is a good opening in Chile for American machinery, but it must be pushed. This the English and Germans understand, and the manufacturers back the men who work the field by giving liberal terms and prices, often nine to twelve months. He adds:

I doubt if it would pay well here to start in a small way. One should be in shape to make a good showing and be able to establish confidence, and that would require considerable capital. Things move here on rather a large scale, since this part of the world is so far from the base of supply. The profits are large, and an energetic man stands a good show of making money.

The language of the country is Spanish, though there is much English and German spoken. American goods and machinery stand well here, but are not as well known as those produced in England and Germany. We should have this business.

IRON INDUSTRY.

AUSTRIA.

LACK OF COKE HAMPERS GROWTH—TAXES AND DUTY.

Consul J. I. Brittain, of Prague, sends the following summary of an address recently delivered before an iron and steel association on iron manufacturing in Austria:

The expansion of the Austrian iron trade would no doubt have been much greater were it not for the limited production of coke in the Empire. There is a limited supply of coking coal; hence large quantities of coke must be imported from Germany and elsewhere. In 1906 the production of coke in Austria was only 1,700,000 tons, whereas Germany produced 20,300,000 tons. Austria imports annually 600,000 tons and exports 300,000 tons. The competing power of a country for the iron market of the world depends more largely upon the quality and quantity of mineral fuel than upon the richness of the ore deposits.

The annual consumption of iron in Austria is estimated at 110 pounds, in Germany 320 pounds, in Belgium 352 pounds, in England 440 pounds, and in America 704 pounds per capita. It is said that the principal reasons why Austria has retained her relative position as an iron-producing country are, first, her high protective duty; second, the amalgamation of plants under one management, thus reducing the cost of production. In the address the import duties on iron in the various countries was given, and the following are those of Austria per long ton: Pig iron, $3.05; black sheets, $18.27; beams, $14.20; rails, $12.18; rod iron, $12.18.

In connection with the high duty per ton on iron, attention is called to the high taxes paid the General Government and other taxes, by the Prager Eisenindustrie Gesellschaft, conjointly with the Böhmische Montan Gesellschaft, which is under the same management. It is stated that these two companies have paid within the past eight years, or since the new tax law became effective, the sum of $4,433,520 in taxes, while the shareholders have received but $12,717,950. Thus it will be observed that more than 25 per cent of the profits was paid in taxes.

CANADA.

DEVELOPMENT OF ONTARIO MINES—NEW PLANTS PROJECTED.

Consul Ernest A. Wakefield, of Orillia, reports that the railway from Sudbury to the new Moose Mine, which is said to be the largest and best deposit of iron ore yet discovered in Ontario, will be completed in January. The company is negotiating with the authorities for the establishment of a smelter at Ashbridges Bay, Toronto, which is to have a capacity of 1,400 tons of ore daily, to be followed by the establishment of plants for manufacturing the pig into various products—a steel plant, a steel-car plant, rolling mills, and steel plate works, the whole to employ 15,000 men. A large shipping dock will be constructed, as well as convenient rail connections with the works.

INDUSTRIES AND LABOR.

THE INDUSTRIAL WORLD.

GERMANY.

ACTIVITY SHOWN IN THE PRODUCTION OF MUSICAL INSTRUMENTS.

Consul C. B. Hurst, in reporting that the manufacture of musical instruments in Germany lies within the Plauen consular district, and is centered at Markneukirchen in a mountainous region, gives the following trade details:

Long established in this town, which now numbers some 8,000 inhabitants, the industry has kept pace with the times, and produces a preponderating majority of the musical instruments of all descriptions exported to the United States, such as violins, violoncellos, double basses, brass and wood wind instruments, accordions, zithers, ocarinas, and harmonicas, and musical supplies. Many of the raw materials used in construction are brought from great distances outside of Germany. In connection with an increased schedule of wages, these materials have advanced in price, with the one exception of ebony woods, which for a time were plentiful and cheap, but as an export prohibition has been put upon the shipment of these woods from Madagascar the prices will soon attain a much higher level. The demand oft expressed in manufacturing circles that cotton be raised in larger quantity in the German colonies finds its parallel in the wish of those manufacturers dependent upon foreign woods that the needed varieties, which are known to exist in the German-African colonies, be more thoroughly exploited. Metals used for wind instruments have risen in price and ivory has gone up 100 per cent.

With difficulty sufficient hands have been found of late to prepare the gut for violin and other strings, in spite of the fact that female help is now being paid one-fourth more for this work than heretofore. Prices for raw gut are high and there is every indication that there will be no decrease. The demand for metal strings has been so steady that there are practically no stocks on hand, although more time was devoted to their production. Profits in this line were not large, owing to the increase in the price of the raw materials. There has been a strong demand for zithers, as this instrument seems to have had a new lease of popularity. Mandolins sold well. With guitars, in particular, business has been especially brisk.

VIOLS AND BRASS GOODS.

Violoncellos and bass viols were made in considerable quantity, while the demand for violins of the cheaper grades was very noticeable. Many orders could only be filled with long terms of delivery. Statistics up to September 1, 1907, show an increased export to the United States, some $36,000 worth of violins and violoncellos having been exported in July and August, and double basses up to the value of $1,300. The beautiful flamed maple that is so well known on violin backs has lately been found with great difficulty and could be had only in small quantities and at excessive prices. Bows have been made to such an increased extent that the raw materials used in their construction, such as brazil and other woods, horse hair, and mother-of-pearl, already enhanced in value, rose still higher owing to the unexpected demand. During the past July $10,000 worth of bows alone were sent to the United States from this secluded district.

Brass musical instruments were exported to the United States in smaller quantity than previous years, owing to the Bohemian competition, with its lower prices for skilled labor. Sheet brass has risen, in 1907, 45 per cent over the price prevailing at the beginning of 1906, and sheet German silver 20 per cent. The familiar mouth organs, affording pleasure to a vast multitude of juveniles the world over, are exported to the United States in great quantities, but the cost of the materials entering into their manufacture has brought about an increase of from 5 to 10 per cent in the price of this instrument. While $41,000 worth of this one article was exported during July and August, 1906, the shipments fell to the value of $26,000 during the corresponding period in 1907. Good orders for accordions and concertinas came from the United States in spite of the higher prices, the amount paid, exclusive of the duty, being over $37,000 during July and August of last year, a difference of only 71 cents in the value imported during the same period of the previous year.

WOOD WIND INSTRUMENTS AND CATGUT—FOREIGN MARKETS.

There was also a fair export in wood wind instruments and in less measure pitch pipes, tuning hammers, motor horns, castanets, and batons. The export of surgical catgut to the United States is increasing, $1,200 worth being sent during July and August, 1907, and the total is probably much larger, as the reports do not embrace the small shipments by mail of less than $100. The declared exports of this article during the same period of 1906 was about $240. During the last year sales to the United States were on the whole better, notwithstanding the general rise in prices for raw materials and for skilled labor, while the export to England, however, suffered in marked degree. The shipments to South Africa, which prior to the Boer war were frequent, have not yet regained their former importance. Business with Russia has picked up very much recently, and Markneukirchen has had the privilege of sending a number of consignments of brass wind instruments to the Japanese army.

It is of great interest to record the development in the export of musical instruments from this district to South America. In particular Argentina, Chile, and Brazil are buying more from month to month, and naturally the local manufacturers are well pleased with the opening of this extensive field, which affords far-reaching possibilities at a time when the markets of England and the United States do not offer the handsome profits that were once obtainable. The growth in American manufacture of musical instruments has been sufficiently rapid to attract the serious attention of German exporters to Australia, where the competition of certain American-made instruments has been effective enough to lessen materially the German output in that direction.

CONDITIONS IN CHEMICAL WORKS.

GRATIFYING ADVANCES SHOWN IN BUSINESS DURING PAST YEAR.

Germany's varied chemical manufactures still continue to form one of the leading phases in the industrial life of the Empire, states Consul T. H. Norton, of Chemnitz. Over 4,000 factories employ more than 100,000 workmen, and the value of their exported wares exceeds $100,000,000. Mr. Norton continues:

Doctor Wenzel, the secretary of the Society for the Protection of Germany's Chemical Industry, presented at the recent session of the organization in Lübeck a valuable review of the conditions prevailing during the year 1906 and of the general advance made in that period. As in most other branches, it was necessary to face very marked increases in the cost of crude materials and in rates of wages. The increase in the value of raw material was met by raising the prices for finished wares, but it was possible to maintain the new rates only with the aid of trade agreements between competing manufacturers. Operators employed in chemical works increased 5.13 per cent in number, as compared with the statistics for 1905, while the growth of the total wage bill reached 10.13 per cent. These figures may be compared with those for German manufacturing industry in general, which recorded in 1906 an increase over the preceding year of 350,000 employees, or 4.89 per cent, while the wage fund advanced 9.89 per cent. The increase of laborers was most marked in the automobile, electrotechnic, and metal manufacturing branches, amounting to 7.58 per cent.

PROFITABLE RESULTS.

Despite obstacles arising from the operation of new tariffs in several leading countries the exportation of chemicals during 1906 reached 1,320,000 metric tons (1,455,050 short tons), as compared with 1,160,000 tons in 1905, an increase of 13.8 per cent. The general rise in the prices of finished products was not sufficient to counterbalance the increased cost of labor, material, and bank advances. Profits for the year would have been unsatisfactory had it not been for the largely augmented sales at home and abroad, coupled with notable improvements in both processes and factory equipment. As it was, dividends compared as favorably with the results for 1905 as the latter did with the profits of the year preceding.

An instructive exhibit of the recent steady development in the profitable character of German chemical works is afforded by the following table, in which the average profit in this branch during 1899, the last "boom year," is indicated by 100, for the purpose of comparison:

1899	100.0	1901	90.9	1903	98.3	1905	105.0
1900	91.1	1902	87.8	1904	98.7	1906	111.5

Absolute increases in the percentage of dividends paid varied considerably in the different lines of chemical manufacture. The increased dividend rate in 1906 amounted in tar manufacture to 3.18 per cent; paints and pigments, 1.52; coal-tar products, 0.73; explosives, 0.69; pharmaceutical, photographic, and scientific preparations, 0.63; artificial fertilizers, 0.60; acids and alkalies, 0.33. Thus far in 1907 there has been no retrograde movement in the production and prospects of this important branch.

OPPORTUNITIES FOR THE INDUSTRIAL CHEMIST.

In sharp contrast with the favorable conditions in Germany for chemical manufacture is the outlook offered there to the average young chemist. Doctor Wenzel was recently requested to give his frank opinion on the prospects for the average young man devoting himself nowadays to applied chemistry. He replied that under existing conditions he could advise no young man, entirely dependent upon his efforts, to enter upon such a career. He regards modern chemistry, in its last analysis, as the effort to replace natural products by artificial products. Thus to-day the man who can furnish a satisfactory substitute for caoutchouc or for shellac has assured himself an independent fortune. Endless possibilities and perspectives are opened in every field of applied chemistry—fertilizers, explosives, artificial foodstuffs, colors, pharmaceutical preparations, and the production of the many acids, alkalies, and salts, but in each department success depends upon individual accomplishment, and this in turn depends in but subordinate degree on industry.

Personally I can indorse, from actual observation and inquiry, the opinion of Doctor Wenzel. Germany's numerous and finely equipped departments of chemistry in both universities and polytechnics are sending forth annually a troop of young chemists far in excess of the actual needs of chemical manufacture or of the various industries requiring more or less of chemical analytical supervision. This "scientific proletariat" is numerically so large that current salary rates are forced down to figures absurdly out of proportion to the time and expense involved in securing an adequate training. Many emigrate, and the German chemist is now found in every land, but the surplus at home is far too large. The electrician, the various catagories of engineers, as well as the members of the older professions, and the business man can look forward in Germany to a far greater probability of satisfaction and reward for the possession of the homely virtues of perseverance and industry than is the case with the chemist.

Interesting in this connection is the fact that but a very limited number of American students of chemistry now seek training in Germany in preference to that offered in our home institutions. Thirty and forty years ago the reverse was the rule. The leading professors of the science in this Empire often welcome to their laboratories the advanced student or teacher from the United States seeking a short period of stimulating contact with the creators of modern synthetic chemistry, but the rank and file enter upon their life work in America without crossing the ocean.

BRITISH INDIA.

A NEW ELECTRIC LINE—POWER FROM THE JHELUM RIVER.

Consul E. Haldeman Dennison sends the following news from Bombay about electrical enterprises in northern India, and also concerning the manufacture of perfumes by the natives:

The Maharaja Scindia has given a concession for the construction of an electric tramway, the lighting of the streets, and the supply of electric power for the three municipalities of Lashkar, Morar, and Old Gwalior, which together constitute the capital of Gwalior State.

The contract includes provisions for the cheap supply of electric power to private enterprise, the intention of the Maharaja being to foster the growth of the capital as an industrial center.. [The names of the concessionaires are on file at the Bureau of Manufactures.]

Included in the great hydro-electric scheme of the Jhelum River in Kashmir, in northwest India, reported in Daily Consular Reports of January 12, 1907, is that of deepening the river by dredgers and thus minimizing the floods, which, under existing conditions, periodically devastate the entire country. For this purpose what is said to be the biggest dredger ever worked by electricity was launched recently at Barramulla.

It is expected that something like a hundred thousand acres will be converted from marsh land into rice land. Another advantage to be gained will be the improvement in navigation, upon which Kashmir depends so largely for its cheap transportation. With the abundant electrical power available it would seem to be a good opportunity for our manufacturers to attempt the introduction of electric launches to be used for towing the boats up the river.

The contracts for the entire hydraulic and electrical equipment, which is now nearing completion, were placed with firms in the United States. The conditions under which the plant was installed are decidedly out of the ordinary. The specifications stipulated that no single piece of machinery should weigh more than 4 tons when packed, for the reason that there is 200 miles of road transportation, including a lift over a range of mountains 8,000 feet high. The installation so far has been thoroughly successful and does great credit to the enterprise and skill of our manufacturers.

DISTILLATION OF PERFUMERY—NEED OF MODERN EQUIPMENT.

Scent distilling is carried on profitably in India, chiefly in the northwest, where roses, for instance, are largely grown to supply the distiller with what he wants. The chief perfumes used are rose water, lemon-grass oil, sandalwood oil, henna (Lawsonia alba), champa (Michelia champaca), maulsiri (Mimusops elengi), cajeput oil, harsingar (Nyctanthes arbor-tristis), keora or khetki (Pandanus odoratissimus), khas khas (Vetiveria zizanicides and Andropogon squarrosus), motia or bela (Jasinum sambac), and chameli or juhi jasmine).

Men with a capital of perhaps $100, or even less, distill these scents and sell them generally to others who conduct the retail trade. There thus comes out of the article two profits, that of the actual distillers and the retailers; in addition, the growers of the flowers, and sometimes agents who collect them, have also to make a profit out of the business. All of these men, of course, live in a very primitive way.

The Indian perfumer has not yet arrived at the stage of assimilating western methods. When he does, the perfume industry of India will become one of the most important in the world. India possesses hundreds of perfume-yielding plants, and the manufacture of perfumes, of which the native is very fond, dates back for many centuries. The local tastes, however, are not those of the western world, and Indian scents do not always commend themselves to Europeans, for the reason that they are heavy in the sense that they are not volatile. One reason for this heaviness is found in the vehicle employed, which is sandalwood oil. This oil is not, strictly speaking, sandalwood oil, but the common sweet or ginjelly oil employed as a vehicle for extracting the perfume from sandalwood, and it is this oil that forms the basis of all Indian perfumes and which accounts for the heaviness referred to.

NEW ENTERPRISES.

COMB FACTORY STARTED—OPENING FOR CRUDE ALCOHOL PLANT.

Consul-General W. H. Michael, of Calcutta, contributes the following information concerning industrial activity in British India:

A comb factory, the first one started in India, has begun operations at Cuttack, province of Bengal, about 300 miles southwest of Calcutta, and has most excellent prospects. The factory is fitted with all the latest machinery, and an expert comb maker has been brought from Scotland to take practical charge. The local demand will support the enterprise, and it seems strange that at this late day the first comb factory in India should be just starting. The machinery for the factory was purchased in England.

A Calcutta paper says that there is a fine opening in India for the manufacture of crude alcohol for industrial purposes under proper regulations of government. The paper says that the cost of petrol is getting to be so enormous that alcohol is being used extensively in France for motors. The motor omnibuses on the Paris streets have been using 50 per cent mixture of alcohol, and indeed throughout France alcohol is becoming more and more used for industrial purposes generally. There is plenty of raw material in Bengal as well as in the rest of India from which crude alcohol could be distilled. The plant would not be expensive and the industry would be a paying one from the start.

CANADA.

NOVA SCOTIA FISHERIES AND GENERAL BUSINESS CONDITIONS.

Consul George N. West, of Sydney, submits the following report on industrial conditions in the Cape Breton region:

It is the consensus of opinion of the masters of fishing vessels, also of buyers and curers of fish, that the season of 1907, though late in its commencement, has been the most profitable for many years, owing to the abundance of fish, and the high prices paid. As an illustration, I may cite the success of one fishing vessel from Gloucester, Mass., which in ten weeks made a catch of over 478,000 pounds, stocking about $14,000. Numerous other vessels made catches in about the same length of time that stocked from $12,000 to $13,000 each. It is also satisfactory to note that the season of 1907 was more free from gales of wind which caused loss of life and damage to vessels than for several years.

The building trades have been duller than for several years, this being no doubt due to the stringency in the money market and the increased rate of interest asked by the banks. The coal, iron, and steel industries have, however, been very busy, employing more men and paying out larger amounts each month for wages than ever before, but the money does not appear to get into circulation as formerly. Merchants in all classes of business state that the community is purchasing only needed supplies of every kind, and those in the smallest quantities. A spirit of frugality is abroad and is severely felt after the liberal manner in which persons had for several years past been in the habit of spending their means.

ST. LAWRENCE RIVER IMPROVEMENTS.

EXTENSIVE PROJECT FOR DEVELOPMENT OF WATER POWER.

Consul John E. Hamilton reports that the St. Lawrence Power Company of Canada has a proposition before the International Water Works Commission to develop, in connection with the American company, the water power at Mille Roches in the Cornwall district, at a cost of $20,000,000. This power company, in connection with an American company, is also investing on the American side of the St. Lawrence and has purchased Barnharts Island, 2,200 acres, and tracts on Longue Sault Island and other properties. It is now erecting a dam at the head of the island, has already expended large sums, and is to expend about $12,000,000. The St. Lawrence company has a development of 1,200 horsepower and has applications for more power. The project will cut out Lock No. 21, and will mean a saving to steamers of four hours. They will be able to run at full speed up the river, and the traffic would necessarily go through American waters.

AUSTRIA.

UNUSUAL PROGRESS MANIFEST IN PROVINCE OF BOHEMIA.

Consul J. I. Brittain, of Prague, advises that since the new Austrian tariff became operative on March 1, 1906, there has been a complete change in the industrial activity in Bohemia, which he summarizes:

Manufacturing establishments have had new life instilled into them, old factories have undergone radical improvements, and extensions have been built, that the output could be increased. In addition to the various improvements more than 100 new factories have been erected. The apathy which was previously noticeable in the industrial world has disappeared, and confidence has been restored.

A noticeable feature of the improved business condition has been the tendency to form trusts, for the purpose of maintaining prices and reducing the cost of production. The formation of these trusts is encouraged by the leading banking establishments, which, aside from a pecuniary advantage derived from commissions and interest on invested capital, enables the banks to better control the operations of their clients and keep in touch with their financial responsibility.

Previous to the operation of the new tariff, Bohemian money sought investment in Germany and elsewhere, but now it is being invested in home industries. The rate of interest has advanced until the Prague banks are paying as high as 4½ per cent on running accounts.

Within the past year the following new manufacturing establishments have been erected in Bohemia: Four textile mills, eight glassworks, two sawmills, two electrical plants, two metal-button factories, five brickworks, two rolling mills, two establishments for the manufacture of agricultural implements, two asphalt-roofing plants, five sugar factories, and one each for the production of the following articles: Jewelry, celluloid, pianos, woolens, felt, tanning extract, ceramics, specialty filters and brewing apparatus, boxes, shoes, shirts and collars, paper bags, paper, bonbons, copper and brass tubing and wire, accumulators, sewer pipe, boilers, motor cars, electrotechnical goods, cocoanut fiber carpet, rope, medical wafers, rapeseed oil, margarin, glue, chemicals, and a machine works and a dyeing establishment. Numerous smaller factories have not been noted in the foregoing list.

ITALY.

GENERAL DEVELOPMENT OF ELECTRICAL POWER IN THE PENINSULA.

Consul James E. Dunning, of Milan, reports that his office has received the official publication upon electrical motor force in Italy, in which the factory inspectors show the continued spread of that form of power in the country. The consul says:

The consulate at Milan has frequently had occasion to comment on the rapid development of electrical force as a motor power in Italy, and particularly in the northern provinces, where the manufacturing interests center. The report for 1906 shows that at Milan alone about one-quarter of the total new work was put into operation, while the development through the Peninsula was general; 125 new electrical plants were built, and 114 extensions of existing plants were effected. The total of 239 new installations is shown in the following table, which also serves to indicate the condition of electrical development in the country as a whole, and the industrial activity at Milan:

Province.	New plants.	Extensions.	Total.	Province.	New plants.	Extensions.	Total.
Milan	11	43	54	Abruzzi	8	2	10
Turin	26	15	41	Basilicata	2	--------	2
Genoa	5	5	10	Puglie	2	--------	2
Venice	13	8	21	Calabria	2	1	3
Rome	8	3	11	Palermo	6	1	7
Florence	12	6	18	Sardegna	1	--------	1
Naples	16	7	23	Government plants	1	11	12
Marche	6	8	14				
Umbria	2	2	4	Total	125	114	239
Lazio	4	2	6				

LABOR CONDITIONS.

ITALY.

OBJECTS AND WORK OF MILAN COOPERATIVE ASSOCIATIONS.

Vice-Consul Ernest Santi furnishes the following information concerning Italian cooperative associations in Milan:

With an officially stated population of 570,000 Milan contains 31 cooperative associations with a membership of 5,523 and a combined capital of $157,000. They can be divided into building, industrial, and workmen's associations.

There are 15 building cooperative associations, which have a capital of $65,000 and a membership of 2,013 building-trades workmen. These are the most important cooperative associations in Milan, and have been the means of accomplishing a great deal for the public good. They are combined in a federation, the chief work of which is to undertake the building of houses where it would become too expensive for the builder to employ so many different sets of workmen. The federation takes on work from the customer and distributes it to the different individual cooperatives, such as the marble cutters, carpenters, plasterers, etc. The federation has a well-perfected banking system on which to conduct its work.

The industrial cooperative associations number 16, with a capital of $10,000 and a membership of 3,510. Some of these are reckoned the most important of the kind in Italy, such as that of the printers; the tailors', which furnishes the municipal authorities, the Milan hospitals, and the orphanages; the mattress makers', which furnishes the chief hospital of Milan; and the iron workers', which also furnishes the city in its line.

The hod carriers' cooperative association is still to be completed. At present this class is employed by intermediary padrones, who bring the men to Milan on Monday mornings and keep them working all the week till Saturday evening, when they are taken back to their homes in the suburban villages for Sunday, returning again on Monday. Their living accommodations in town, being at the expense of the intermediaries, are not at all satisfactory. The object of the association is to abolish the padrone system, to build decent, hygienic houses for the use of the workmen, and to provide them with good food. As the State Railway has promised its help in this work, the association is very confident that within a short time conditions can be bettered.

The cooperative associations of Milan erected buildings in 1906 to the value of $1,000,000, of which $140,000 was for industrial structures, almost double the sum for 1905. The associations only admit persons who are engaged in that particular trade for which the cooperative association is organized. Nearly all of them have reserve funds to be used in cases of death on duty, illness, old age, and for aid to the unemployed. Some even have special funds for the teaching of the trade to apprentices. The creation of these cooperative associations, which was thought impossible a few years ago, was chiefly brought about by the Italian Humanitarian Society, which has its headquarters in Milan.

GERMANY.

INCREASING STRIKES AND LOCKOUTS IN SAXONY.

The following information concerning labor conditions in Germany, especially in Saxony, is furnished by Consul George N. Ifft, of Annaberg:

Each succeeding year shows an increase in the number of strikes and lockouts in Germany, and these are more marked in Saxony, on account of its great industrial development, than elsewhere. The number of strikes in Saxony in 1906 was 311, against 149 in 1899, the first year for which statistics were completed. The causes of the strikes in 1906 were: Demands for higher wages, 224; demands for shorter hours, 11; demands for reinstatement of employees, recognition of unions, etc., 76. In about 50 per cent of the cases the courts were appealed to for the maintenance of order. The struggles of the wage-earners to better their conditions have been carried on persistently in the face of industrial and other conditions that would seem to make them almost hopeless from the outset. The wage-earners are divided into two camps, by reason of which they are much hampered as to the lines along which they should organize, one party being the social democracy, which comes close to being treated as disloyal or, at least, nonpatriotic, and the other party based upon principles antagonistic thereto.

While the German workers have profited by the experiences of their fellow-workers in other lands, the employers have not failed to profit by the same experiences, and have formed employers' protective associations, which now cover the whole country, and mutual associations of manufacturers for insurance against losses from strikes and lockouts. It is claimed that these latter associations are really a benefit to the cause of labor, for it is essential to membership therein that factory conditions be such as would not invite strikes, and it is also to their interest to prevent strikes if possible, and when strikes occur to make them as short as possible. The convention of Saxon manufacturers, held in July, 1907, claimed that the association had, in a large number of instances, prevented or settled strikes to the satisfaction of employees and employers.

The immediate future has small promise for industrial peace in Germany, nor has it much promise for the betterment of wages or hours of labor, as a constantly increasing friction is growing up between employers and employees.

NORWAY.

EMIGRATION TO AMERICA HAS CAUSED IMPROVEMENT.

Consul F. S. S. Johnson in the following report discusses the condition of the laboring classes at the Norwegian port of Bergen:

The rate of wages of workmen, such as laborers on roads, railroads, buildings, and similar work, has, during the past few years, greatly advanced; the causes are many, the chief being the large exodus of young men to America. Such labor is done by the young men who come from the interior in search of employment and who, by their industry, frugality, and economical habits, have, in a way, entirely monopolized all branches of rough manual labor. They earn from 75 cents to $1 a day.

Agricultural laborers earn from 6 to 7 cents an hour, but are not very numerous. During planting and harvesting times more women than men are seen in the fields. The rate of wages earned by mechanical laborers is comparatively high. Thus, skilled plumbers get 55 to 60 øre (100 øre=1 krone=26.8 cents) per hour and coopers 40 øre per hour. Upholsterers are as well paid, while carpenters and blacksmiths earn somewhat less (40 øre per hour). The wages of artisans in other branches of work vary considerably. The best journeymen tailors receive 45 øre per hour, while those of inferior skill receive 35 øre per hour, according to their ability. Printers (compositors) earn about 35 to 40 øre per hour and shoemakers from 18 to 20 kroner per week. Masons are paid by the hour at the rate of 44 øre per hour, never earning more than 4 to 5 kroner a day. [Detailed lists of wages paid to seamen and in the metal and machine, wood and building, clothing, and aliment industries, compiled by the consul, as well as a price list of food necessities, are placed in the public reference files at the Bureau of Manufactures.]

The conditions of the laboring classes have during the past few years greatly improved. The improved system adopted by the schools, as well as compulsory attendance, has been productive of good results. The laboring classes are frugal and industrious, destitution being rarely found among them. They are contented with little. The living of a mechanic with a family, including the rent of tenement and cost of clothes, etc., consumes almost his entire earnings.

UNITED KINGDOM.

BOARDS OF ARBITRATION—INTERNATIONAL EMPLOYERS' CONVENTION.

Consul-General Robert J. Wynne, of London, transmits the following newspaper summary of a report recently issued by the British Board of Trade with regard to the procedure of industrial conciliation and arbitration boards in the United Kingdom:

The number of boards and joint committees for the settlement of industrial disputes known by the board of trade to be in existence at the present time is 194, and it is estimated that more than 1,250,000 work people are covered by the operations of all the conciliatory agencies. In addition, there are two boards whose work is restricted to questions affecting employees of cooperative societies, and fifteen district boards not confined to any particular trade.

In the coal mining and iron and steel industries, wages—the most frequent cause of disputes—are in most districts controlled by conciliation boards or similar arrangements. In another large industry, the cotton trade, conciliation is provided for the spinning branch by the Brooklands agreement, while the weaving branch has a joint committee with limited powers. In the engineering trades the terms of settlement made in January, 1898, of the dispute in 1897–98, provide conciliatory methods of arranging disputes for nearly the whole of the United Kingdom. In the shipbuilding trades machinery is in existence at the important centers for avoiding a common cause of disputes, namely, the demarcation line of work between the various classes of trades employed. In the building trades conciliation boards were, up to 1905, of a local character only, but in that year a national scheme of conciliation was formed.

Of the 7,248 cases settled by conciliation boards in the last ten years, only 92 (or about 1 per cent) were preceded by a stoppage of work. Most of the boards provide that all their decisions or the awards of their arbitrators shall be final and binding, and a few go further and impose a money penalty for breach of agreement or award. This penalty has in one or two cases been enforced, not only on the employers, but on the men.

Following upon the recent conference in London between the various European maritime employers' federations, steps are now being taken by each of the countries represented to appoint two delegates to the international committee which is to formulate a scheme of international cooperation for dealing with labor disputes. The countries selecting delegates are Belgium, Denmark, France, Germany, Great Britain, Holland, Italy, Norway, and Sweden. Spain was not represented at the conference, but has been invited to nominate two delegates upon the international committee, whose first meeting will be held in London.

BELGIUM.

MINING VILLAGE TO BE BUILT AFTER FRENCH MODEL.

Consul H. Abert Johnson, in a report from Liege, gives details of coal-mining enterprises in Belgium, one of which is planning to establish a model mining village, and has engaged as manager an engineer in charge of a mining plant at Bethune, in France, concerning which the consul writes:

> These French mines employ a force of some 8,000 workmen. They possess 2,000 workmen's dwellings that are rented to the miners at from \$1.15 to \$1.54 a month. The houses, with gardens attached, are arranged in attractive villages, with broad streets and boulevards. Churches and schools have been built; the water supply, sanitary arrangements, and the electric-light plant are all of the most modern and up-to-date class. A visit to Bethune proved highly satisfactory to the officials of the Limbourg region and has tended to strengthen their determination in building up their new organization to follow as closely as possible the model set by the French mines. Thus, according to the plans, this new mining settlement in the Campine will be a most beneficial innovation; and instead of the hitherto insanitary conglomeration of hovels, piled one against the other without either symmetry or design, the new mining village will present an attractive and orderly collection of neat cottages grouped on well laid out and broad streets, with a plentiful supply of good water and the most advanced system of electric lighting and sanitary appointments.

SOUTH AFRICA.

EMIGRATION TO CAPE TOWN DEEMED INADVISABLE.

Hon. James Bryce, British ambassador at Washington, advises that the agent-general for the Cape of Good Hope has requested that the existence of depression at Cape Town and the inadvisability of persons going to that South African city at present to seek for employment should be made as widely known as possible in quarters from whence immigration is probable. This information corroborates American consular officers' reports on the same subject.

SCIENTIFIC PROGRESS.

ARTIFICIAL GEMS.

FRENCH LABORATORY TURNS CORUNDUM INTO PRECIOUS STONES.

Consul-General Frank H. Mason, of Paris, transmits a report upon the recently announced discovery by a French scientist of a process by which corundum spar may be converted into rubies, sapphires, topazes, and other gems by exposure to the action of radium. He writes:

The scientific sensation of the moment in Paris is the fact, which is profusely announced in the newspapers, that Prof. Frederick Bordas, of the College of France, has succeeded, after long and patient experiment, in producing precious stones by exposing the coarse ordinary form of crystallized alumina known as corundum or adamantine spar to the action of radium.

The possibility that this process may be used industrially for the production of certain kinds of precious stones at a cost which will modify the present market values of the natural gems invests the subject with so much interest that a brief report may prove of value.

It will be remembered that all these gems are in composition crystallized alumina, but through long exposure to varying conditions of heat and pressure during the slow cooling and development of the earth's surface they have assumed different colors, to which the names of ruby, amethyst, etc., have been given. The discovery of radium revealed the active agent through which various changes in certain substances, which had hitherto been of slow progress, might be intensified and accomplished in a comparatively brief time.

The present discovery of Professor Bordas was suggested by the fact that the minute glass tubes in which radium is confined and kept for scientific use take on gradually a beautiful azure color resembling the sapphire. This was attributed by Professor Berthelot to the presence of minute traces of manganese in the glass, which the marvelous projective power of the radium reveals and revives with varying grades and tints of coloration. Professor Bordas therefore placed crystallized corundum of several tints in contact with minute tubes of radium, laid them away in a dark place not subject to changes of temperature, and found after a lapse of several weeks that the white corundum had become yellow like the topaz, the blue crystals had become green like emerald, and the violet had turned to blue like the sapphire.

JEWELER'S TEST—POWER OF RADIUM.

Thus was overthrown the theory held hitherto by scientists that each of these precious stones has its own special coloring oxide, and that these several oxides—green, blue, red, or yellow—have no definite relation to each other. Professor Bordas, as the published accounts relate, took his newly created gems to a leading lapidary jeweler, from whom he had purchased the corundum crystals, who identified and tested them and found that they had been converted into a topaz, a ruby, and a sapphire which fulfilled all the tests and requirements of natural stones.

He then obtained from the same jeweler a new series of corundum crystals in pairs, each pair of an exactly similar color. One stone of each pair was exposed for a month to the action of radium, the other retained for comparison, and the result of this second experiment was the same as before. The light reddish corundum, valued in commerce at about 50 cents per carat, had been converted into a ruby valued at $100 to $150 per carat. The dark red corundum became a deep brilliant violet, the violet amethyst had become a sapphire, and the bluish corundum a topaz.

The possible effect of this discovery upon the trade in jewelry and precious stones can be readily inferred. Radium is as yet one of the rarest and most precious substances known to science, but the duration of its power is practically unlimited, and since 1 milligram (0.0154 grain) of radium is sufficient to convert several corundum crystals into precious stones within the space of a month, and since this process may be repeated indefinitely with the same speck of radium, it is naturally, though perhaps prematurely, assumed that this latest discovery may have an important industrial value and lead to serious modifications in the commercial prices of certain precious stones. Professor Bordas, however, regards his discovery as a mere laboratory experiment and disclaims any intention to secure for it a commercial value.

NEW NORWEGIAN FERTILIZER.

DIFOSFAT AND VIBORGFOSFAT FURNISH IMPROVED CROP FOODS.

Consul Felix S. S. Johnson supplies the following report, from Bergen, on the new phosphoric-acid fertilizers produced in Norway:

Though frequently requested to give information as to the fertilizer works at Odda, I have until the present time been unable to learn the process employed, as the greatest secrecy has been maintained. However, a similar factory will soon be started at Bergen, for which application has been made to the municipality for electrical power, and I learn that it is desired to use 900 kilowatts of electricity. To reduce this to horsepower the amount should be divided by 0.736, which gives 1,223 horsepower.

It is estimated that in producing 15,000 tons of fertilizer about 20,000 tons of apatite and from 2,000 to 3,000 tons of corallian are required. Apatite is a phosphoric-acid phosphate consisting of phosphorated chalk and fluorine or chloride of lime. The phosphorated chalk is obtained here. After having undergone several chemical processes and mixture with other substances the desired fertilizer is secured as phosphoric-chalk manure. Viborgfosfat has for several years been manufactured at the Gellivara mines, where much apatite is found. Soda was used in the manufacture, but it so increased in price that it had to be discontinued two years ago.

Difosfat, or, rather, dicalciumfosfat, has been experimentally produced in Sweden. The process was invented by the Swedish lecturer Palmer. The production has about the same components as viborgfosfat.

Several official reports have been published concerning the culture trials which have been made with these fertilizing substances, especially those from Sweden. Several trials have also been made in Norway, at Aas Agricultural High School and elsewhere. The results of the trials showed that difosfat and viborgfosfat are considerably more effective than tomasfosfat and somewhat better than superphosphate, though the difference between the two last named is not so great.

In superphosphate the phosphoric acid is soluble in water; therefore it is quickly effective, but should a severe rain shower occur just after it had been spread over the ground a large portion of it would be washed away. In difosfat the phosphoric acid is found in a form which is not soluble in water, but only by the organic acids in the earth and plants. It therefore acts more slowly than superphosphate, but with much better results. Riiber's method of manufacturing difosfat and viborgfosfat is much superior to those previously discovered. The raw materials which are necessary, besides apatite and corallian, are secured by cooking salt. The process of manufacture is electrolytic; that is, the combinations in which matter occurs in nature are split by the action of electricity and new combinations come into existence which become soluble and can be taken up by plants as nutritive substance. The corallian found at Bodö, being very porous, is particularly adapted as raw material for the manufacture of the new fertilizer.

The market for such fertilizer is so large that any amount of it can be manufactured without risk of overproduction, especially when the article can be sold at such a low price that the peasants find it profitable to use it. What is not used in Norway can be sold abroad. The trial test is to be continued at Christiania upon a somewhat higher standard.

NEW GAS IN GERMANY.

AN IMPROVED MANUFACTURING METHOD PRACTICALLY TESTED.

Consul Samuel H. Shank, writing from Mannheim, thus describes a new process of gas manufacture in Germany:

During 1906 there was built at the small town of Tostedt a plant for the manufacture of gas by the Dannert process. This gas is made from oil and coke and is similar to the water gas made in the United States, but it is claimed that the process is much cheaper, both in the cost of the plant and in the cost of production. The plant at Tostedt is only a small one, designed to supply a town of 2,000 inhabitants, but its successful operation for several months has demonstrated the practicability and economy of the new process. As a basis of comparison, I give below the figures for this plant in comparison with those of a plant of like size for the manufacture of gas from coal.

	Coal gas.	Dannert gas.
Capacity of plant for 24 hours……cubic meters..	1,000	2,000
Cost of plant:		
Ground	$1,300	$300
Buildings and machinery	11,850	9,700
3 miles of mains (2 to 6 inch)	6,188	6,188
90 street lamps and 160 house connections, including meters	3,808	3,808
Total cost	23,146	19,996

	Coal gas.	Dannert gas.
Cost of manufacture of 100,000 cubic meters of gas:		
Wages	$1,100	$450
Material—		
Coal, at 50 cents per 220 pounds	1,700	....
Coke, at 50 cents per 220 pounds	....	475
Oil, at $1.45 per 220 pounds	....	425
Sundries	60	60
Total cost	2,860	1,410
Saving in cost of production	....	1,450
Receipts from sale of 100,000 cubic meters of gas:		
For street lights, 18,000 cubic meters, at 3.8 cents	680	680
For private lights, 45,000 cubic meters, at 4.3 cents	1,935	1,935
For private cooking and heating, 23,000 cubic meters, at 3.6 cents	790	790
For private power, 7,500 cubic meters, at 3.6 cents	270	270
For use in plant and loss in mains, 7,500 cubic meters	....	....
Total receipts for gas	3,675	3,675
Receipts from by-products	525	25
Total receipts	4,200	3,700
Total cost of production	2,860	1,410
Net earnings	1,340	2,290

The foregoing statement shows an earning on the capital invested of 11 per cent for the Dannert gas, and of 5 per cent for the coal gas. The cost of the construction in America of a Dannert gas plant would be about 30 per cent less than for a coal-gas plant. The cost of production would be much less in America than in Germany, as crude oil in Germany costs more than in the United States. In some sections of the United States coke is cheaper than in Germany, and in those places where coke is expensive soft coal can be used by a slightly different construction of the gas furnace.

The gas produced by the Dannert process has a calorific value of four-fifths that of the coal gas, but this may be increased by a slight additional cost in the manufacture. The candlepower of the Dannert gas is the same as that of the coal gas.

HYGIENIC SCHOOL INNOVATIONS.

GERMAN AND SWISS MOVEMENT TO IMPROVE HEALTH OF STUDENTS.

Stating that the importance of better care of the health during childhood is daily becoming more recognized, Consul T. J. Albert, of Brunswick, describes some of the plans to further this aim being carried out in Germany and Switzerland:

In Grunewald, a suburb of Berlin, this summer, for the first time in a public school, instruction free of charge in swimming has been given to the children. The Berlin municipality will establish a forest school, which will be distinguished from the Charlottenburg type by being a complete boarding school, where the pupils will reside. There are already 200 children counted upon as pupils. The subjects of children's health and school hygiene at the approaching Congress for Hygiene and Demography will be more broadly considered than heretofore. During the present holidays increased attention has been given to juvenile sports and rambles in the country.

The Prussian Minister of Public Instruction has issued a direction worthy of imitation. In order to prevent as far as possible the injurious effects of long sitting by the pupils in the schools, he recommends that, on days when the regular instruction in gymnastic exercises is not given, such free exercises without apparatus should be taken by the male and female scholars in a systematic manner as will promote the invigoration of their health and will be specially conducive to good carriage. Before issuing a general order he desires trials to be made in a number of schools of different sorts. Such arrangements are to be chosen as the practical knowledge of the managers and teaching staff think can with care and circumspection be safely carried through. The exercises are to last five to ten minutes, which time is to be added to suitable pauses between lessons. The bodily exercises are to be in the open air or in a closed room after thorough ventilation.

In Switzerland the city of Berne has established a permanent exhibition for school hygiene. In the city of Basel the Liberal School Union has adopted a resolution demanding obligatory instruction in swimming for the upper classes of the public schools, the erection of school sanitariums, and the completion of the Institute for School Physicians. The city of St. Gall has made a trial of special classes graded according to the mental capacity of the children, similar to the Mannheim model.

FIRELESS STOVES.

LATEST GERMAN IMPROVED SELF-COOKERS.

In reply to a Kansas City correspondent Deputy Consul-General John W. Dye, of Berlin, furnishes the following information concerning the newest form of fireless stoves in Germany:

Fireless stove, or self-cookers, as they are variously known, have been in use in Germany for a number of years, so that they may now be classified as successful. The earlier types were merely boxes constructed with double walls, or by secret processes built so as to retain heat when sealed. These cookers, which are still on the market, are used as follows: After a thorough heating, food to be cooked (stewed or boiled) is placed inside the box, sealed, and left for a sufficient time, when it is opened, and the food, cooked by the retained heat, is ready to serve.

Recently a company here has improved upon the apparatus and produced a fireless stove that not only cooks, but fries and roasts. Profiting by past failures and successes the company has perfected a cooker that, although on the market but a year, has already proved very popular. Frying and roasting are accomplished in the new cooker by the use of a heated stone. The stone is thoroughly heated in an oven, over gas or any fire, and placed in the cooker with the steak or roast. The box is sealed up and left for an hour or so, as required, then opened, and the food is fully prepared and hot. In the double boxes all three processes may proceed at one time without care or difficulty.

The owners of the patents on this latest apparatus claim that the sales in the coming year will exceed 50,000 cookers in Germany and Switzerland.

[A copy of the cookbook issued by the fireless stove company, which accompanied Deputy Consul-General Dye's report, is on file in the Bureau of Manufactures, where it may be consulted by parties interested.]

AIR BATHS IN GERMANY.

PROVING OF VALUE IN TREATMENT OF NERVOUS DISEASES.

Consul T. H. Norton reports from Chemnitz that during the past few years the use of air baths as therapeutic agents has rapidly spread in Germany. He says in part:

At the large sanatorium in Chemnitz, devoted chiefly to the treatment of nervous complaints, the inclosed space utilized for air baths is the most striking feature. At a recent meeting of German scientists a sanatorium director summed up the results of this simple and inexpensive method of curing nervous complaints, and claims for it a more widespread recognition on the part of the physiologist and practitioner.

In order to secure the best results from these baths, it is recommended that they be taken when the air is as dry as possible; that care be taken at the outset against prolonged exposure; that the requisite amount of light gymnastics be assured, especially in cool weather, and that too much exposure to the direct solar rays be avoided, especially in connection with nervous complaints. A spacious place, surrounded by trees, free from wind, with a certain amount of shade—preferably foliage—containing a gravel track, a sand heap, and a pool in the open sunlight, supplies the best combination of favoring conditions. The application of water outside of a bathroom should be allowed in such an open space only when sunshine and adequate warmth are assured. When snow is present, or the ground is damp, sandals are to be worn. Danger from chills is encountered only when rain or general humidity increase the conductivity of the air and soil, and consequently permit a more rapid loss of bodily temperature. [Mr. Norton's complete report may be consulted at the Bureau of Manufactures.]

MOISTURE IN BUILDINGS.

BELGIAN WALL TREATMENT WITH SALTPETER OVERCOMES DAMPNESS.

Consul W. P. Atwell, in a report from Ghent, tells of successful experiments in that city which are interesting as to hygiene of dwelling houses, as well as to the preservation of monuments and public buildings. He writes:

These experiments have been recently officially made for the first time in Belgium. The Ghent city and University libraries were seriously threatened by humidity, and certain parts could no longer be used and had to be completely abandoned. It was therefore decided that a trial would be made with a new system of drawing humidity out of walls, which has recently been invented by a Belgian, after long and patient researches. The experiments began July 14 and were completed on August 14. The hygrometrical degree of the air in the room, of approximately 1,200 cubic meters (42,377.3 cubic feet), where the different experiments took place, was 83° on July 13. At that time a strong moldy smell was found to exist. The greater part of the wall was covered with saltpeter, while the floor or pavement was almost continually wet. On September 13, after testing the new system thirty days, the hygrometer was found to have lowered from 83° to 60°. The walls had become completely dry, and the saltpeter and smell had disappeared. The pavement was perfectly dry and remained so, while prior to these experiments it had always been found to be moist. In Belgium the normal hygrometrical atmosphere of buildings in good condition varies between 60° and 70°.

SAFETY CAGE FOR MINES.

ENGLISH INVENTION MINIMIZES POSSIBILITY OF ACCIDENT.

A Nottingham miner has patented a safety pit cage, which Consul F. W. Mahin states is claimed to be a decided advance on all its predecessors, both in application and security. The consul thus describes this new British invention:

It is stated that it can be applied to any kind of mine cage and ship or passenger elevator, and that it has the great advantage of being adaptable equally well to steel, wood, rope, or any form of guides that may be in use. The cage is fitted with sliding bars, each having a gripping screw with a weight or spring attached, by which the bars are coupled to the guides should the hauling or winding rope break, and without in any way damaging the guides. A particular feature is the automatic gripping action exercised on the guide ropes by the weight of the cage itself and its immediate but gentle arrest in the event of the breaking of the winding rope. Thus, it is asserted, there can be no severe jerk on sudden stoppage, and no danger of the occupants of the cage being violently thrown against the roof should an accident occur. With this system, it is contended, the danger from accidents by the breakage of winding and hauling ropes in mines, elevators, etc., is minimized.

WIRELESS ELECTRICITY.

FRENCH INVENTION FOR TRANSMITTING POWER.

Consul John C. Covert advises that a very important and far-reaching invention is announced in the French city of Lyon by which, it is said, electrical power can be transmitted without the use of wires, concerning which he says:

It may be called an extension of the wireless use of electricity. It is still kept a secret and it seems that only one person in Lyon possesses a knowledge of all the facts on the subject. He is a prominent broker who has financed the enterprise. He informs me that all the work in perfecting the invention was carried on in the country at the castle of a prominent manufacturer of Lyon and that only two persons were permitted to know what was going on. Some two weeks ago the first experiments were tried, and a miniature street car was moved over a flat space by electricity communicated from a distance of several yards. The invention is being tried in Marseille on a street car line and applied to several different kinds of machinery.

TARIFFS.

CHANGES AND REGULATIONS.

AUSTRALIA.

PREFERENCE GIVEN BY NEW TARIFF TO UNITED KINGDOM AND COLONIES.

The tariff bill introduced by the Australian government last year having failed of ratification, a new bill was introduced in the Commonwealth Parliament early in August and bids fair to become a law. Its leading feature is the preference given to products of the United Kingdom and some of the countries belonging to the British Empire. Pending final action by Parliament, the bill provisionally took effect when introduced. The bill has been made the subject of study by the Chamberlain Tariff Commission, of England, whose principal conclusions are thus produced in the London Financial Times:

The new Australian tariff, while it will probably lead to a transference of trade from foreign countries to the United Kingdom, and affect the relative proportions of the different branches of the exports of the United Kingdom to Australia, is not likely to diminish and may, on the whole, increase the total volume of those exports. Under the previous tariffs the British share of the Australian import market was steadily diminishing. In the three years ended 1896 70 per cent of the Australian imports came from the United Kingdom and 16 per cent from foreign countries; in the three years ended 1906 the percentages were 60 and 26, respectively. The new tariff is also designed to develop Australian industry, with special provisions to insure to Australian labor a fair share of the benefit, and to encourage importations from the United Kingdom rather than from foreign countries of such manufactures as Australia does not at present and can not reasonably expect in the near future to make for herself. The new tariff comprises (*a*) general duties at ad valorem and specific rates; (*b*) preferential rates applicable alone to United Kingdom goods; (*c*) a general free list applicable to all countries; (*d*) a United Kingdom free list for goods which are dutiable when imported from other countries, thus embodying the principle of the Empire free list in the new Canadian tariff. The classification is not altered in principle, but the number of items separately tariffed has been greatly increased, making a general comparison between the old and new rates extremely difficult.

INCREASE IN DUTIES.

The rates of duty have, on the whole, been increased. Thus in 1906 the "piece goods" imported were subject to an average tariff of 10 per cent; if the new tariff had been in force these goods would have been subject to an average tariff of 16 per cent. Similarly machinery was subject to an average tariff of 7½ per cent under the old tariff, but if imported under the new tariff would have had to pay 18½ per cent. In the largest and most important division (i. e., apparel and textiles), in which the imports of 1906 exceeded 12½ millions sterling, the general rise is from an average of 13 to 20½ per cent ad valorem; but while the tariff against United Kingdom goods has been increased by 6½ per cent, the increase against other goods has been 9¾ per cent ad valorem. Ninety per cent, or £8,500,000 worth, of the imports of apparel and textiles imported from the United Kingdom is subject to preference rates, while on the trade done by other countries 62½ per cent, or £2,400,000 worth, is subject to preference rates if imported from the United Kingdom. In the "metals and machinery" division an analysis of 90 per cent of the total shows that while the average rate on goods coming from the United Kingdom has been increased by 7.1 per cent, the increase against other countries has been 7.6 per cent. The portion analyzed shows that £3,600,000 out of the total of £5,300,000 of "metals and machinery" imported from the United

Kingdom receives preference rates, while of the remaining £3,060,000 of imports from other countries £1,400,000 worth receives preference rates if imported from the United Kingdom, more than £250,000 worth coming under the operation of the United Kingdom free list. On "paper and stationery" the average tariff against United Kingdom goods has been increased by 1 per cent, but against other countries the increase has been 9½ per cent. In this division £643,000 worth, or nearly 60 per cent, of the imports from the United Kingdom receive preference rates; and of the imports from other countries 93 per cent, or £681,000 worth, are granted preference if imported from the United Kingdom. Nearly two-thirds of this £681,000 receive preference by the application of the principle of the United Kingdom free list. In the "earthenware, china, and glass" group the duties against United Kingdom goods have been increased by 6.1 per cent ad valorem; against other goods the increase is 9.6 per cent ad valorem.

AN EMPIRE FREE LIST.

The Australian tariff recognizes the important principle of an Empire free list which Canada initiated in her tariff of 1906. The items of this list were, speaking generally, admitted free of duty under the old tariff and are now subject to duties of 5 or 10 per cent in the case of foreign countries. The details of the United Kingdom free list in the new Australian tariff include a large number of commodities entering into agricultural and manufacturing operations. Four groups may be named in illustration—namely, agricultural implements, such as cream separators, scutching machines, maize binders, and harvesters, sheep-shearing machines (of the goods in this group £144,000 were imported in 1906); "machinery and parts thereof," including steam rollers for flour mills, typewriters, fire engines, sewing machines, etc. (a group of items of which £195,000 worth was imported in 1906); electrical materials, including accumulators and storage batteries, cable and wire, carbons, meters (a group of which £259,000 worth was imported in 1906); animal and vegetable blacks, litharge, prepared glaze for pottery, sulphate of copper, dyes for manufacturing purposes, etc. (a group representing £82,000 of imports in 1906). These four groups alone represent together £680,000 worth of imports, of which £250,000 came from other countries than the United Kingdom. These imports from other countries are now subject to duties of 5 or 10 per cent, while the United Kingdom remains on the free list. The United Kingdom free list as a whole covers goods the imports of which from all countries amounted in 1906 to not less than £3,000,000. The 1906 value of the imports still remaining on the general free list (exclusive of bullion and precious stones) was not less than £7,700,000. Australian treasury officials estimate the advantage given under the new tariff to British trade in competition with other trade at between £1,200,000 and £1,300,000 on the basis of the 1906 imports. Allowance being made for the expected increase of United Kingdom trade, these officials estimate that the benefit will rise to at least £1,500,000.

COMPARISON OF RATES.

To bear out these conclusions an elaborate analysis is made of the duties under the old and new tariffs as affecting the principal articles imported. Of these the two most important groups are apparel and textiles and metals and machinery. Under the former head it is stated the total value of imports in 1906 was £12,742,000, of which it has been found possible to compare the old and new duties upon £12,277,000 worth, or 96 per cent. Nearly three-fifths of this total consists of piece goods of all descriptions, and the increases of duties under the new tariff average 5 per cent in the case of United Kingdom goods and 8½ per cent in the case of other goods. The effect of these changes is to increase the margin between the average rates in favor of United Kingdom goods from 3.9 to 7.1 per cent. The total value of the piece goods imported was £6,951,000, of which £5,309,000, or four-fifths, was of United Kingdom origin. Thus goods of the value of £1,642,000 came from other countries practically entirely foreign, and the duties on these foreign goods will now average 21.3 per cent (in place of 13.1 under the old tariff), the duty on similar British goods being of the average of 14.2 per cent (in place of 9.2 per cent).

The most important branch of the piece-goods trade is cotton and linen goods, flannelettes, etc. The duty on most of these goods was 5 per cent under the old tariff and remains at that figure. On the entire cotton and linen group the average rates of duty on the £3,224,000 worth of goods of United Kingdom origin was 5.6 per cent under the old tariff and is 5.9 per cent under the new tariff. The value of cotton and linen goods imported from other countries was £342,000, and on these the duties collected averaged 6.5 per cent under the old tariff and would have been 12.2 per cent if the new tariff had been in force. Thus the margin on cotton and linen goods has been increased in favor of the United Kingdom from 0.9 per cent to 6.3 per cent.

The most considerable increases of duty occur in woolen piece goods and flannels. Almost the whole of this group was formerly subject to 15 per cent; the new duties are 30 per cent for United Kingdom goods and 35 per cent for goods from all other countries. The total value of the group is £2,084,000, of which £1,732,000 comes from the United Kingdom and £352,000 from other countries.

Out of the £8,230,000 analyzed in the division "metals and machinery" £2,076,000 represents iron and steel goods, of which £1,775,000 came from the United Kingdom and the remaining £301,000 from Germany and the United States in nearly equal proportions. The largest item is galvanized plates and sheets. The importation of these was, in 1906, £1,069,000, of which all but £37,000 was of United Kingdom origin. The importation has increased by £327,000, or 44 per cent, since 1901. Under the old tariff galvanized sheets were subject to a duty of 15s. per ton, or less than 5 per cent. The new general tariff is 20 per cent on galvanized sheets not corrugated and on corrugated sheets not galvanized, and is 25 per cent on galvanized corrugated sheets. There is a British preference in each case of 5 per cent. Under the old tariff tinned plates were admitted free and continue free when imported from the United Kingdom. Other countries now pay 5 per cent. The importation was, in 1906, of the value of £258,483, of which all but £1,370 worth came from the United Kingdom. In 1903–4 there was a considerable decline in the importation of tinned plates, but there has since been a recovery. The group of "manufactures of metals" consists mainly of iron and steel, but also includes some brass, copper, and similar goods. The amount of trade analyzed is £2,442,000, of which £1,400,000 is of United Kingdom origin. The old average rate of duty in this group was 9.4 per cent for goods of United Kingdom origin and 5.6 per cent for other goods. The new duties average 19 and 14.1 per cent, respectively. There has thus been a greater increase in the average rate of duties on United Kingdom goods than on those of other countries. This is mainly due to the transference of large quantities of wire from the free to the dutiable list. Thus wire netting (£522,000 in 1906, of which £379,000 came from the United Kingdom and £140,000 from Germany) is now subject to duties of 25 per cent in the case of the United Kingdom and 30 per cent in the case of other countries in place of free admission under the old tariff. Iron and steel wire (£520,000, of which £41,000 came from the United Kingdom, £325,000 from Germany, £150,000 from the United States) remains on the free list. Barbed wire (£73,000, of which £12,500 came from the United Kingdom, £16,000 from Germany, and £44,500 from the United States) paid 10 per cent under the old tariff and now pays 20 per cent in the case of the United Kingdom and 30 per cent in the case of other countries.

The other principal items are also dealt with in detail, and tables are given showing the average rates of duty under the old and new conditions and goods from the United Kingdom and foreign countries, respectively. The figures for the six principal groups are as follows:

Group.	United Kingdom.			Other countries.		
	Imports, 1906.	Average rate of duty.		Imports, 1906.	Average rate of duty.	
		Old tariff.	New tariff.		Old tariff.	New tariff.
		Per cent.	*Per cent.*		*Per cent.*	*Per cent.*
Textiles	£7,285,000	12.5	19.0	£2,282,000	14.9	24.6
Metals and machinery	5,216,000	5.8	12.9	3,014,000	6.0	13.6
Stationery	1,076,000	7.2	8.2	728,000	7.6	17.0
Earthenware, glass, etc	322,000	20.8	26.4	415,000	19.6	29.2
Leather and rubber	570,000	14.7	18.6	657,000	13.1	22.3
Oils, paints, etc	519,000	14.8	21.8	883,000	7.2	9.2

In the case of the last group, "Oils and paints," the low average duties against foreign countries are due almost entirely to the free admission of kerosene oil from the United States, the value of this item alone representing £402,000.

BRITISH NORTH BORNEO.

NEW RATES ON WINES, LIQUORS, AND MALT LIQUORS.

Consul Lester Maynard, of Sandakan, transmits the following extract from the British North Borneo Government Gazette:

On and after January 1, 1908, the import tariff provided under the heading "Wines, spirituous and malt liquors," shall be repealed and the following substituted, viz:

	Per gallon.	
	Borneo currency.	U. S. currency.
On all spirituous liquors	$2.40	$1.36
On all sparkling wines	1.50	.85
On all still wines	1.00	.57
On all other fermented or distilled liquors, except arrack and samsoo, intended for use as a beverage and containing more than 2 per cent of pure alcohol by weight	.24	.14

CANARY ISLANDS.

DUTIES ON SUGAR, COFFEE, AND COCOA.

Consul Solomon Berliner, of Teneriffe, reports under date of September 28, 1907, that the temporary reduction of the duties on sugar, coffee, and cocoa in the Canary Islands, which went into effect August 12, 1907, is no longer in force, another royal order having been issued providing that full tariff rates should again be applied on the articles in question after midnight on September 30, 1907.

CHILE.

IMPORT DUTIES AND WAREHOUSE CHARGES.

Secretary Janes, of the American legation at Santiago, transmits the translation of a new law enacted by the Chilean Congress August 22, 1907, which has for its purpose to provide a stable currency for that country.

Article I of the law provides that the import duties and warehouse charges may be paid in gold in the manner determined by the law of July 31, 1898,[a] or in paper money with the additional charge necessary in order to obtain 18d. per peso, in drafts on London at ninety days after sight.

The President of the Republic will determine the extra charge within the fourth day of each month, taking as a basis the average rate of international exchange during the preceding month.

COSTA RICA.

REDUCTION OF DUTIES ON REVOLVERS AND CARTRIDGES.

Vice-Consul Charles S. Caldwell, of San José, reports under date of October 10, 1907, that by Executive decree No. 3 of October 8, 1907, the duty on revolvers has been reduced from 15 colons ($6.97) per kilo (2.2 pounds) to 3 colons ($1.40) for each revolver; the duty on cartridges for revolvers from 15 colons ($6.97) per kilo to 2.5 colons ($1.16¼), and the duty on air-rifle cartridges from 9.78 colons ($4.55) per kilo to 2 colons (93 cents). To all duties 0.01½ colon (0.7 cent) per kilo must be added for wharfage.

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[a] The law of July 31, 1898, provided for the issue of notes which could be used in the liquidation of all obligations, with certain exceptions, among the latter being import duties and storage dues which were to be paid in gold at the rate of 18d. per peso.

CUBA.

CUSTOMS DECISIONS BY GOVERNOR MAGOON.

Mr. Edwin V. Morgan, United States minister to Cuba, reports under date of October 17, 1907, that within the last few weeks a committee of the chamber of commerce, industry, and navigation of Cuba brought to the attention of the provisional governor six matters of dispute which had arisen between merchants and the treasury department in the administration of the customs service of Cuba. The governor's decision upon points of dispute is embodied in a letter of instruction addressed to the acting secretary of finance, which is transmitted by Minister Morgan. The letter covers the following points: (1) The duty on sugar machinery; (2) supplementary duties on merchandise cleared and liquidated according to merchants' entry; (3) surtax upon certain kinds of porcelain; (4) duties on articles not disembarked; (5) duties on dried and pressed sardines; (6) classification of earthenware under the Cuban tariff.

The letter of instruction follows:

HABANA, CUBA, *October 11, 1907.*

SIR: With reference to your report of August 20, 1907, in regard to certain complaints of the chamber of commerce, industry, and navigation of the island of Cuba, after carefully considering the matters discussed by you and the representatives of said chamber, I beg to say:

SUGAR MACHINERY.

First. Sugar machinery.—Complaint as to the collection of duties on sugar machinery imported seems to refer not to the classification of the machinery, nor to the mode of collection, but solely to the shortness of the term fixed for the installation of the machinery in order to obtain the rebate conceded by the tariff law and the circumstances that no extensions of said term have been granted. It would appear fair to allow a longer time for installation in view of the lack of communication facilities in Cuba, the uncertainty as to obtaining the necessary amount of skilled and unskilled labor, and the further fact that it is not to be presumed that planters will import machinery in order, voluntarily, to let it lie idle, as such procedure would result in financial loss. While the term should be fixed, extensions should be granted under regulations calculated to prevent abuses; none should be conceded unless the applicant therefor can satisfactorily explain that his failure to effect the installation was not due to negligence or willful delay. I therefore direct that the period for installation be fixed at six months, and that an extension may be granted for a like period of time if good and sufficient reasons are duly established.

SUPPLEMENTARY DUTIES.

Second. "Alcances" on merchandise cleared and liquidated according to merchants' entries.—There seems to be no doubt as to the legality of the action of your department in regard to "alcances" and the changes in the classification of articles imported. It does not appear equitable, however, when a certain interpretation of the law has been followed for years and a different and new view is taken of the legal provision, that the ruling should be made retroactive, to affect past liquidations, after the duties required by the customs officials have been paid by the merchant and the articles, perhaps, have been sold by him at prices depending upon such duties. It is the custom in the United States, when a new ruling is made in regard to the classification of merchandise, to instruct the collector of customs to classify future importations of the merchandise according to the new instructions. I therefore direct that a similar procedure be observed in the custom-houses of Cuba, and that no new classification by the treasury be made retroactive, nor the importers required to pay additional duties when they have made payment according to the liquidation of the custom-house. From this direction are excepted cases of fraud and cases of error in calculation or other material error.

SURTAX ON PORCELAIN WARE.

Third. Seventy-five per cent surtax on paragraph 24 of the customs tariff.—Paragraphs 23 and 24 of the customs tariff are as follows:

"23. Porcelain in dishes or hollow ware: (*a*) Neither painted, gilt, nor in relief, 100 kilos, $5.80;[a] (*b*) painted, gilt, or with ornaments in relief, 100 kilos, $9.30.[a]

"24. Statuettes, flower stands, and vases, high and bas relief, articles for toilet purposes, and house decorations, of fine clay, faïence, stoneware, porcelain, or bisque, 1 kilo, 25 cents."[a]

There is a footnote to paragraph 23 which reads as follows:

"A surtax of 75 per cent of the duties will be levied upon Saxony, Sevres, and similar fine porcelain."

It does not appear that this footnote refers to any other paragraph on the page, whether preceding or following paragraph 23. Even as the law stands, the duty on the articles comprised in paragraph 24 is high, being $25 per 100 kilos. It is therefore ordered that necessary instructions be given to apply the 75 per cent surtax, when proper, only to the articles comprised in paragraph 23 of the customs tariff.

DUTIES ON ARTICLES NOT DISEMBARKED.

Fourth. Duties on articles not disembarked.—The intention of the law is that duties be collected on merchandise actually delivered within the territory of the Republic of Cuba. When merchandise is lost, thrown overboard, or by reason of any other casualty is not among the stores mentioned in the ship's manifest, the certificate of the master of the vessel, together with the written statement of the discharging officer of the custom-house and the affidavit of the importer or his agent that the merchandise has not arrived, should be considered "proof satisfactory to the collector." I therefore direct that Circular No. 24, of April 10, 1902, issued by the administration of the Cuban custom-houses, be again put in force; modifying the same by exempting from the tax such goods as are lost in the bay from lighters before reaching the wharf. While the customs regulations of the United States and the aforesaid Circular No. 24 refer only to merchandise found lacking on vessels, it must be taken into consideration that vessels in Cuban waters do not generally tie up to the wharves, but unload by means of lighters, and that, in consequence of rough weather and accidents to lighters, the total loss of part of the cargo is not infrequent.

CLASSIFICATION OF SARDINES.

Fifth. Dried and pressed sardines.—With reference to your remarks as to the classification of sardines and the decision rendered by you that they be classified under paragraph 249 of the customs tariff as mackerel, I am inclined to the ruling of Gen. Tasker H. Bliss, October 10, 1900, in the matter, viz, that Spanish sardines, dried and pressed, be classified under paragraph 248 and in any other form under paragraph 249, and I direct that the classification be so made

CLASSIFICATION OF EARTHENWARE.

Sixth. Porrones, alcarrazas, and cantaros of ordinary earthenware.—It appears that "porrones," "alcarrazas," and "cantaros" of common earthenware are cheap earthen jugs, used generally by the poorer class of people, and can properly be classified as household or kitchen utensils. To classify them under paragraph 21*b* would be to impose a tax of $3 for every 100 kilos,[a] which is out of all proportion to the value of the merchandise, which does not exceed $5 or $6 per 100 kilos. Gen. Tasker H. Bliss, by Circular No. 308, of September 5, 1899, provided that such articles be classified under paragraph 20*a* of the tariff of 1898, at 80 cents per 100 kilos,[a] which corresponds to paragraph 21*a* of the present tariff. These articles are in general use throughout the island, and the practical result of said change in classification has been to double the wholesale and retail price. The return of the original classification is a step in the direction of reducing the cost of living, and therefore I direct that this ruling be followed hereafter, and that such jars be classified under paragraph 21*a*.

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[a] The above are the rates as originally provided for in the customs tariff. Since the conclusion of the reciprocity treaty with the United States the rates have been advanced, making them as follows: Products of United States—Paragraph 23*a*, per 100 kilos, $4.524; paragraph 23*b*, per 100 kilos, $7.254; paragraph 24, per kilo, 26 cents. Products of other foreign countries—Paragraph 23*a*, per 100 kilos, $7.54; paragraph 23*b*, per 100 kilos, $12.09; paragraph 24, per kilo, 32.5 cents.

The further matters mentioned in your report of August 20 will receive attention in subsequent communications.

Very respectfully,

CHARLES E. MAGOON,
Provisional Governor.

Mr. GABRIEL GARCIA ECHARTE,
Acting Secretary of Finance, Habana, Cuba.

NICARAGUA.

EXPORT DUTIES ON NICARAGUAN PRODUCTS.

Consul José de Olivares, of Managua, transmits the following official circular of the ministry of foreign relations of Nicaragua, dated September 6, 1907:

Frequently the consulates at various markets which maintain commercial relations with our own have requested data concerning export duties in Nicaragua, and it is therefore desired to furnish the same with respect to the products which are objects of greater exportation, namely:

	Gold.	Nicaraguan currency.
For every hundredweight of coffee	--------	$2.00
For every kilo of rubber	$0.12	--------
For every kilo of hides	.01	--------
For every kilo of deerskins	.02	--------
For every ton or 1,000 superficial feet of mahogany, oak, and royal cedar	1.00	--------
For every ton of mora (dyewood), guayacan, quebracho, nambar, rosewood, and jenizaro (hard woods)	.50	--------
For every 1,000 cocoanuts	.50	--------
For every head of male horned cattle	--------	2.00
For every kilo of gold	17.00	--------
For every kilo of silver, in bars	.80	--------

The rate of exchange on Nicaraguan currency at the time of transmitting the decree was $7.20 of paper to $1 of gold. 1 kilo = 2.2 pounds.

PERU.

ABOLITION OF DUTY ON IRON PIPES.

Consul-General Samuel M. Taylor, of Callao, reports under date of October 12, 1907, that the Peruvian Congress has adopted a resolution removing the duties on iron pipes used for waterworks and sanitary purposes; also removing the duties on "Spander metal," imported for construction purposes. These resolutions await only the "decree" of the President to make them law, which, the consul states, will in all probability be made.

SALVADOR.

DUTIES ON PARTS OF MACHINERY.

In view of certain doubts as to the interpretation of article 592 of the customs tariff of Salvador, which exempts from all import and other duties machines brought into the country for industrial purposes, the Executive has issued the following ordinance, dated December 21, 1906:

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[a] Present rate: Products of United States—Paragraph 21*a*, per 100 kilos, $0.78; paragraph 21*b*, per 100 kilos, $2.925. Products of other foreign countries—Paragraph 21*a*, per 100 kilos, $1.04; paragraph 21*b*, per 100 kilos, $3.90.

1. Article 592 of the tariff is maintained in force and solely applies to accessories of machines.

2. Spare parts of machines, being integral parts thereof, such as boiler grates, bearings, pulleys, cogged wheels, shafting, manometers, injectors, boilers, as well as all other parts of the kind, shall always be duty free, whether imported together with the principal machine or separately afterwards.

3. Accessories, namely, materials and articles not being an integral part of machines, such as rubber, asbestos or leather packing, belting of all kinds, oil cans, common or impure machine oil, cleaning yarn, fire clay and fire brick, glass tubes for boiler levels, valves and other similar articles, are liable to the provisions of article 572 of the tariff as regards the duties, time, and quantities affecting importation thereof.

4. All artisans' tools, pipes in general, and handles of all kinds are in no case to be regarded as spare parts or accessories of machines.

The present ordinance shall enter into operation on the day of its publication.

REDUCTION OF SURTAX ON IMPORTS.

By decree dated March 22, 1907, which went into effect April 1, 1907, the surtax of 8 pesos silver per 100 kilograms levied on imports into Salvador in addition to the regular import duty has been reduced to $3.60 United States gold currency, payable in cash or in bank drafts at sight on the United States.

PAYMENT OF DUTIES IN GOLD.

By decree dated March 27, 1907, in effect April 1, 1907, import duties formerly payable in silver have been reduced in the proportion that 22 bears to 10 and made payable in American gold coin or bank drafts at sight on the United States.

TREATMENT OF DAMAGED GOODS.

Decree dated May 8, 1907, provides that damaged goods abandoned by merchants at the time of examination shall be placed at the disposal of the insurance companies if proved to have been insured. The companies will be at liberty to clear them, subject to payment of full duties and charges, during the eight months allowed by law for storage, after which the goods will belong to the treasury.

SURTAX ON EXPORTS.

Decree dated May 6, 1907, provides that there shall be levied a surtax of 1½ centavos on every quintal (46 kilos=101 pounds) of merchandise exported through the ports of the Republic, except on coined gold and silver, which are liable to a special duty of 3 per cent on the principal value.

DUTY ON POWDERED PAINT.

Decree of June 5, 1907, provides that powdered paint, whether common or fine, shall be dutiable at the rate of 8 centavos instead of 5 and 10 centavos, to which they were respectively subject under the customs tariff.

SERVIA.

REDUCTION OF DUTIES UNDER COMMERCIAL TREATY WITH BELGIUM.

Consul M. K. Moorhead, of Belgrade, transmits the official Servian-French texts of a commercial treaty between Servia and Belgium and a commercial agreement between Servia and Sweden.

The treaty with Belgium was concluded at Belgrade April 24, and proclaimed by the King of Servia October 4, 1907, to be temporarily in force until December 31, 1907, pending ratification by the Servian legislature. The agreement with Sweden was concluded at Belgrade April 11, 1907, and proclaimed on October 4 by the King of Servia to be temporarily in force until December 31, 1907.

The Skupshtina (National Assembly), which met on October 20, is expected to ratify these treaties at an early date in order that they may come permanently into force.

By the terms of the treaty with Belgium some of the rates of the Servian tariff have been reduced, and under the most-favored-nation provision of the treaty in force between the United States and Servia these rates will be applicable also to imports from the United States. In return for the concession on the part of Servia, Belgium agrees, among other things, to reduce the former duty of 60 francs per 100 kilos on dead poultry to 30 francs.

The following are the new reduced Servian duties agreed upon in the treaty (1 kilo = 2.2 pounds; 1 dinar = 19.3 cents United States currency):

Tariff No.	Articles.	Rate of duty per 100 kilos.
		Dinars.
Ex. 183	Stearic acid	15.00
511	Plate and sheet glass, more than 5 mm. thick, blown or cast:	
	1. Neither ground, polished, colored, figured, beveled, foliated, gilt, silvered; also curved glass—	
	a. Up to 100 cm. in length and width	7.00
	b. From 100 to 200 cm. in length and width	9.00
	c. More than 200 cm. in length and width	12.00
	2. Ground, polished, colored, foliated, beveled, silvered, gilt, painted in any manner; also curved glass—	
	a. Up to 100 cm. in length and width	20.00
	b. From 100 to 200 cm. in length and width	25.00
	c. More than 200 cm. in length and width	30.00
512	Plate and sheet glass of 5 mm. and less in thickness, blown or cast:	
	1. Neither ground, polished, smoothed, colored, figured, beveled, foliated, silvered, gilt; also curved glass—	
	a. Up to 100 cm. in length and width	7.00
	b. From 100 to 200 cm. in length and width	9.00
	c. More than 200 cm. in length and width	12.00
	2. Ground, polished, colored, foliated, beveled, figured by etching or in any other manner, gilt, silvered, painted in any manner; also curved glass—	
	a. Up to 100 cm. in length and width	25.00
	b. From 100 to 200 cm. in length and width	30.00
	c. More than 200 cm. in length and width	35.00
Ex. 539	Pipes of iron of all kinds, except those for boilers or refrigerators; also pipe joints:	
	2. Of cast iron—	
	a. Not worked or roughly worked	4.50
Ex. 540	Rails for railways and tramways, regardless of shape, even perforated; fish plates, rail cramps, and bolts for rails	3.00
Ex. 541	Switches, signals, various iron parts for railway wheels, brakes, buffers, crossings, sidings, switch tongues, and other material for railways	5.00
Ex. 649	Railway and tramway cars:	
	. For freight	[a] 8.00
	2. For passengers	[a] 10.00
668	Firearms and air guns, completely finished:	
	1. Guns	120.00
	2. Revolvers and pistols of all kinds	100.00
669	Parts of firearms and air guns:	
	1. Ordinary, rough	40.00
	2. Finished	75.00

[a] Per cent ad valorem.

The agreement with Sweden provides for mutual most-favored-nation treatment.

SPAIN.

CERTIFICATES OF ORIGIN.

Mr. William H. Buckler, chargé d'affaires of the American legation at Madrid, transmits a translation of a recent order issued by the minister of the treasury of Spain, dated October 5, 1907, dispensing with the requirement of certificates of origin, in the case of certain goods, which used to be required to entitle imported merchandise to minimum rates of duty, or "second tariff." Similar action was taken on February 11, 1907, with reference to certain goods (see Monthly Consular and Trade Reports for June). The new order does away with this requirement for the goods mentioned in the following classes of the Spanish tariff:

Tariff No.		Unit of quantity.	First tariff.	Second tariff.
			Pesetas.[a]	*Pesetas.*[a]
75	Wheels of iron and steel weighing more than 100 kilos, for locomotives, railway and tramway cars, and wagons, whether or not mounted on their axles.	100 kilos[b]	20	18
76	Wheels of other kinds, pulleys of iron and steel, and their component parts.	do	25	18
87	Large pieces of iron and steel composed of bars, or of bars and plates, attached with rivets or screws, and such pieces without rivets, bored and cut to measure for bridges, frameworks of buildings or other constructions, and pipes with rivets.	do	22	17
101	Screws and bolts from 5 to 10 millimeters, inclusive, in diameter and their nuts and washers.	do	40	32
102	Screws and bolts up to 5 millimeters, inclusive, in diameter.	do	45	38
251	Paraffin in bulk	do	35	30
403	Other kinds of paper, in a crude state, not specifically enumerated.	do	70	54
404	White or colored paper of whatever weight, trimmed, manufactured by hand, and blotting paper.	do	59	48.75
442	Fine wood manufactured into any article except furniture and moldings.	do	70	52.50
528	Cables and wires for conducting electricity, covered with textile fibers with or without insulating materials, the total diameter of which is 1 centimeter and more.	do	60	45
529	Cables and wires of other kinds less than 1 centimeter in diameter.	do	150	120
639	Beef or mutton, in tins	do	40	25
640	Sardines, preserved in tins	Kilo	.40	.25
680	Tissues, waterproofed with rubber, in pieces or patterns.	do	5	4
682	Rubber shoes, even combined with other materials, except leather.	do	4	3
683	Rubber and gutta-percha, in other forms, except instruments, toys, and stationery.	do	6	4
689	Umbrellas and parasols, covered with silk fabrics	Each	4	3

[a] Peseta, 19.3 cents.

[b] Kilo, 2.2 pounds.

The form for such certificates is prescribed in the Spanish tariff law, from which it will appear that (1) the name of the consignee, (2) the final destination of the goods and address of the consignee must be clearly stated in the certificate. It seems that, in certificates prepared in the United States, this is not always done.

A recent case that was brought to the notice of the American legation involved a consignment of rubber shoes, via Antwerp to San Sebastian, made by an American firm to its agent. The certificate declared the goods shipped to Antwerp. The only indication thereon as to the consignee and real destination of the goods was that the packing cases were declared to be marked thus: "U. S. R. C.—C. G.—San Sebastian."

By the minister of the treasury, before whom the American legation carried the case, this certificate was held legally insufficient, and the consignee would have had to pay the first (i. e., higher) rate had not the order of October 5, 1907, rendering certificates unnecessary for goods within clause 682, been issued just in time to relieve him.

TURKEY.

SUSPENSION AND REDUCTION OF DUTIES ON GRAIN AND FLOUR.

Consul-General E. H. Ozmun, of Constantinople, reports under date of October 7, 1907, that in view of the dearness of bread, which is almost the sole staple of the poor in that city, the Imperial Government has temporarily prohibited the export of wheat from Turkey, and has also suspended the entire duty of 11 per cent on grain imported into Constantinople and reduced to 6 per cent (instead of 11 per cent) the duty on flour imported into that city.

VENEZUELA.

DUTIES ON ARTICLES USED IN BREWERIES.

Consul Eugene H. Plumacher, of Maracaibo, transmits a copy of a decree promulgated by the Venezuelan minister of finance September 16, 1907, which provides for the customs classification of certain articles used in breweries and not mentioned hitherto in the Venezuelan tariff, as follows:

1. Anhydrous ammonia, used in manufacturing ice, to be assessed under class 2 of the customs tariff.
2. Calcium chloride, used in manufacturing ice, to be assessed under class 3.
3. Malted or roasted barley, used in making beer, to be assessed under class 2.
4. Metallic bottle caps and cork stoppers, with the name of the brewery using them appearing thereon, to be assessed under class 4.

The duties on the various classes are as follows: Class 2, 0.10 bolivar per kilo; class 3, 0.25 bolivar per kilo; class 4, 0.75 bolivar per kilo. A bolivar is equal to 19.3 cents, and a kilo is equal to 2.2 pounds.

EXPOSITIONS.

INTERNATIONAL DISPLAYS.

FRANCE.

PRINTING PAPER AND MACHINERY AT PARIS—AMERICAN EXHIBITS.

The International Paper Exhibition, at Paris, the scope and purpose of which was briefly described by Consul-General F. H. Mason in a former report, was opened, he now states, according to schedule, on August 1, in the "Grand Palais," the use of which had been granted for the purpose by the French Government.

It required but a glance to see that the exhibition was in a state of great unreadiness and that its opening, which was in the midst of the summer vacation season, when a large percentage of business men are absent from Paris, had awakened but a feeble and indifferent public interest. While the exposition was announced to be primarily one of books, paper, and printed products, the exhibits in these categories proved to be the least complete and attractive, and, with the exception of the displays made by certain Paris newspapers and periodicals, the smallest in number. The newspaper exhibits consisted for the most part of decorated booths containing furniture, illustrations showing the interior of their respective plants, and originals and prints of feature illustrations, some of which were interesting and excellent.

There were but two collections of prints and bindings that were specially notable, and the best exhibits of black and white, sepia, and multicolor work were made by English and German exhibitors. There was no adequate display of the various devices and processes employed in photochemistry, and but one exhibit of cameras. The only two exhibits of finished photographic products were made by French firms.

PRINTING MACHINERY.

None of the leading French makers of printing machinery participated in the exhibition, which failed to attain a fully representative character, largely through the fact that the Association of Master Printers of France held aloof and did not give the enterprise its sanction or support. Of the 22 exhibitors of printing machinery 17 were foreigners, and the chief technical interest of the exhibition was centered in the sections devoted to type-composing machines, printing presses, bookbinding, and miscellaneous printing.

There were in this group 22 exhibitors, of whom 2 were English, 5 French, 5 German, and 10 American, the latter being as follows: R. Hoe & Co., the Mergenthaler Linotype Company, Sheridan & Co., Thompson & Co., and the Dexter Feeder and Folder Company, all of New York; the Miehle Printing Press Company and Rouse & Co., of Chicago; the Monotype Company and the Monoline Composing Company, of Washington, D. C., and the Smythe Manufacturing Company, of Hartford. The five different type-composing machines on exhibition were all American inventions, although one, the linotype, was made in London and another, the typograph, was from Berlin. All were line-casting machines except the monotype, from Washington, which makes a separate movable type.

France is the only European country in which all workable designs of type-composing machines are now free to all, and are competing for the trade. The situation is rendered especially interesting by the fact that both the American and English linotype companies are here brought into direct competition. This has been made possible by the conditions under which American inventors and developers of these machines have sold licenses to certain Europeans to make and sell them in their respective countries.

TYPE-COMPOSING MACHINERY.

The details of these patent negotiations are too long and complicated to be repeated here, but in general it may be said that while type-composing machinery is substantially an American invention—one of the most important and valuable improvements of the past twenty-five years—the American inventors have derived comparatively little benefit from the sale and use of their European patents. This is at least one of the controlling reasons why they made so creditable a display of their best work at this exposition and are preparing to supply European buyers with machines made in the United States. As the early linotype and typograph patents have now expired, France has become practically an open field for this branch of trade, and competition is so keen that it is very difficult for a layman to ascertain the prices at which they are leased or sold.

In connection with the demand and supply of the continental European printing trade, American manufacturers of type-composing machinery are reminded that while in the United States there is but one standard of measurement in printed surfaces and a general uniformity in the style of text-type faces, in Europe the unit of measurement and style of type face varies with the different countries and is everywhere different from that of our own country. The standard height for type in France is 62½ didots, or seven-thousandths of an inch higher than the American standard. Hence American stereotyping machinery, when sold here separately from American presses, must be constructed to cast plates that can be adjusted to French-made presses, both in regard to contour and height of printing surface. On the other hand, American folding and feeding machines, cutting and trimming machines, and binders' stitching and sewing machines require no modification of the models and measurements used in the United States.

BOX MACHINERY—FRENCH PRINTERS.

There is a good field in France for the sale of American machinery for making and printing paper boxes, cartons, and paper bags, but in all these goods the sizes are adapted to metric weights and measures, and the styles differ from those which prevail in America.

An interesting phase of the task of introducing American type-composing machines into French territory is found in the attitude of the operatives who work them, and the reluctance of publishers and commercial printers to so change their practice in the preparation of copy as to secure something near the efficiency which is obtained from similar machines in the United States. Owing to the construction of the French language, the average compositor or machine operator here composes about 10 per cent less than a good compositor will do in English. In America the publisher accepts the union scale of wages but insists that the operator shall turn out a given amount of work per day. In France the union operator demands the union scale of wages but systematically keeps the output of the machine to the lowest point. The old pen and pencil method of preparing copy is in general practice, so that a much larger burden of correcting errors and discrepancies falls upon the operator than in the United States, where copy for type-composing machines is generally prepared with a typewriter. As a result of all these conditions the operators who use American type-composing machines in France do not, as a rule, exceed 70 per cent of the efficiency obtained from the same machines in the United States. In Paris women operators are extensively employed, and their efficiency is said to surpass that of most men. The union scale of wages for book composition is 10.50 francs ($2) per day of eight hours, and for newspaper work 12 francs ($2.31) per day or night of seven hours.

MULTICOLOR PRINTING PRESSES AND FOLDING MACHINERY.

In the division of flat-bed and color presses there were three exhibitors, viz, the Miehle Manufacturing Company, of Chicago; Linotype and Machinery Syndicate, of London, and a French maker, Voirin, who displayed a rotary lithographic press of somewhat new construction. The Miehle display included three presses in parallel units, while the London company exhibited three machines as one unit in tandem. Both installations were in daily operation doing three-color work. The Miehle Company has a permanent agency in Paris, established as a result of the favorable impression created by its exhibit at the Paris Exposition of 1900, and has been remarkably successful, although it has operated in competition with the London syndicate above cited, which manufactures up-to-date presses of the Miehle type for Great Britain and the colonies, and for continental Europe another modified type which avoids infringement on the European patents taken out and owned by the American company. It is a sufficient testimonial to the high reputation of American color-printing machinery that no less than 430 presses of the Miehle pattern have been sold in continental Europe by the two competing Paris agencies during the past six years.

In the section of feeding, folding, bookbinding, and miscellaneous machinery it can be said in brief that the Germans led in the number and variety of machines displayed and the Americans in importance and excellence. In automatic feeders and folders the Dexter Company, of New York, was easily the first, although the German and French makers competed with machines that are simpler and far cheaper, but which in respect to efficiency, wide range of work, durability, and speed are distinctly inferior to the American machines. There are now about forty of these high-class automatic feeders in operation in France, but less success has been attained in the sale of folding machines or those which combine the feeder and folder.

MISCELLANEOUS AMERICAN EXHIBITS.

No report of the exhibition would be complete which failed to give an account of the American section, which, largely through the efforts of Mr. W. H. Tolman, the chief of the commission, was broadened so as to comprise a highly interesting pictorial and descriptive record of effort and progress in the social betterment of factory employees and other working people in the United States. The section which included this group of exhibits was admirably located in the central portion of the building, and was from the first a center of sustained popular interest. Among its prominent features was a model business office, equipped with up-to-date desks, book cases, cabinets for correspondence and library classification, an Underwood typewriter, Fidelity carbon paper, Waterman fountain pens, and other improved office supplies. Among the incidental features of the modern office was a large volume containing photographs of the automobile race for the Vanderbilt cup.

Adjoining the office was a reading room, with files of twenty leading American technical and trade publications. The Funk & Wagnalls Company had an interesting exhibit, showing the office of the Outlook, with cases of original drawings and photographs revealing the details of printing, illustration, and publication. Among the books exhibited there were the Standard Dictionary and the Jewish Encyclopædia, the latter an exhaustive work of 13 volumes. An American press-clipping bureau made a complete and interesting exhibit of its equipment and methods, and Messrs. H. B. Rouse & Co., of Chicago, displayed a line of cutting machines and sticks for job printing. In the same section was a fascinating collection of Byron's flash-light photographs, illustrating the principal plays that have been staged in America during the past year.

It is notable that no department of the entire exposition attracted more interested attention from French visitors than that portion of the American section which was devoted to sociology, church work, and the intelligent, liberal efforts which are being made by corporations, industrial firms, and sociological organizations to improve the relations between capital and labor by means of improved dwellings, clubhouses, recreation fixtures, educational classes of many kinds, restaurants, bath and rest rooms, and the most improved methods of sanitation and hygiene. Although these subjects have only a remote and incidental relation to the avowed scope and purpose of the exhibition, they are recognized as dominant elements in the problem of industrial progress, and the lessons which are taught by this American exhibit will be among the most lasting results of the exposition.

EDUCATIONAL AND INDUSTRIAL DISPLAYS.

Among the noticeable features of this section were the exhibits made by the General Electric Company, of Schenectady; the National Cash Register Company, of Dayton; Messrs. Sherwin, Williams & Co., of Cleveland; the Waltham Watch Company, the Gorham Manufacturing Company, the Edison Electrical Company, and the Draper Company, of Hopedale, Mass. Mr. W. C. Garrison, of the New Jersey bureau of statistics, displayed a case of photographs illustrating industrial improvements in the factories of the Weston Electrical Instrument Company, the American Brake-shoe and Foundry Company, and other leading industrial firms in that State, together with a complete digest of statistics of employment, wages, and health conditions among the factory employees, and a history of labor and the growth of modern labor unionism.

The New York board of education contributed six cases filled with descriptions and illustrations of class rooms, lecture halls, gymnasiums, play centers, vacation schools, and school architecture. The Young Men's Christian Association, the Salvation Army, Christian Science, and the Socialized Church of America each made large and complete exhibits of photographs, literature, and descriptions illustrating their respective activities, with a special reference to the methods of practice for the purpose of reaching the working people, and doing for their social and physical regeneration the salutary things which by reason of limited means and leisure they are unable to do for themselves.

Other exhibitors in social economy were the People's Institute, of New York; the Children's Aid Society; the National Plant, Fruit, and Flower Guild; the City History Club, the Nursing School Settlement, the Bowery Settlement, the Philadelphia Public Baths Association, the New York Association for the Blind, the Federation of Day Nurses, the National Council of Jewish Women, and the Cooperative Law Association of Brooklyn.

The exhibition closed on October 20, and the consensus of opinion among exhibitors is that it would have been equally successful and less burdensome if it had been opened on September 1 and closed thirty or at most forty days thereafter.

ELECTRICITY AT MARSEILLE.

PROPOSED INTERNATIONAL DISPLAY OF APPLIED MECHANISMS.

A report from Consul-General Robert P. Skinner states that arrangements are being rapidly perfected for the opening in Marseille on April 19, 1908, of an international exposition of applications of electricity, concerning which he supplies the following details:

The exposition is organized under the auspices of the city of Marseille, and the commissioners-general are H. Dubs, manager of the Marseille street railways, and G. Cordier, administrator of the Society of Electrical Energy, etc. Foreign countries and the French colonies are invited to participate in the exposition. It will be held in the new city park, and the buildings are to a large extent now ready. I have no doubt that it will be profitable to American manufacturers of electrical supplies and machinery of every class to interest themselves in this exposition, and I can probably be of assistance to such in suggesting local firms capable of taking charge of their exhibits.

Until within the past two or three years the southeast of France possessed only a few local electrical installations, and they were not of great importance, but several groups of capitalists have lately created a vast system of electrical distribution, alimented by a series of hydro-electrical establishments now disposing of a force equal to 150,000 horsepower. This electrical energy is already distributed among 400 communes in 8 departments having a population of 3,000,000 inhabitants. The rapidity with which all this has been accomplished has opened up considerable possibilities to manufacturers of machinery and supplies prepared to take advantage of the circumstances.

The exposition next year will comprise 17 principal groups, subdivided into a large number of classes. The general plan of the enterprise includes a grand palace of 4,000 square meters (4,784 square yards), a palace of energy of 5,000 square meters (5,980 square yards), a palace of traction and mines of 4,000 square meters (4,784 square yards), an agricultural building of 2,500 square meters (2,990 square yards), with an experimental field in connection therewith; a modern house containing every application of electricity to domestic purposes, and the usual subordinate buildings and amusement enterprises. All exhibits properly entered will be free from customs duty, the exposition grounds constituting in effect a bonded warehouse. An imposing list of public authorities and prominent business men are acting as members of the managing committee.

GERMANY.

INDUSTRIAL AND GOVERNMENT EXHIBITS IN SAXONY.

Some indication of the systematic thoroughness with which German trade is extended into distant and valuable fields may be gathered from an interesting exhibit that is now being held in Saxony, writes Consul Carl Bailey Hurst, of Plauen, who describes it, as well as a Government exhibit:

The industrial exhibit is limited in compass, eminently simple, but contains material enough to engage the attention of many German manufacturers, with a view to the further extension of German export trade. The display, which is made in the rooms of a chamber of commerce, is not a heterogeneous assemblage of articles that some manufacturers think they would like to export, but rather a very carefully prepared collection of textiles and yarns and the simpler metal wares such as are in actual daily use in Asia Minor, Kurdistan, northern Mesopotamia, and Syria. The exhibit is decidedly suggestive. Many of them can not be made in those countries with the same skill, taste, and cheapness with which they can be produced in Germany, and they are here shown in order that German manufacturers may become familiar with the needs and designs of the people from whom the samples were taken. It shows a highly developed export instinct and capacity in not trying to push goods of home consumption ill adapted to the necessities of individual peoples.

It is the converse of the ordinary exhibition, where the articles are shown with the object to sell. Here the articles are displayed with a view to reproduce and send out finished goods from German sources to compete with the native products. It would be difficult to find a more advanced method than this for developing trade abroad, and it is not only in the territory in question but in many others that this system can be followed. There are, of course, many collections in different localities of native products of other countries, but it is by no means the rule that a representative lot of articles that can be manufactured is brought together as an incentive to export.

TRAVELING NAVAL DISPLAY.

Interest in the construction of a larger navy is rapidly growing throughout Germany. The women and children have contributed to the development of the fleet. A traveling naval exposition is now being held in one German city after another with the sanction and assistance of the Federal Government, and it is just concluding its stay in this district. The objects shown are from the German navy department and from Government institutions or other sources with the sole purpose of awakening an interest and an understanding in a larger navy. A number of very fine models, some 10 feet in length, of battle ships, cruisers, cannon boats, torpedo boats, and destroyers are shown, with brief but interesting details as to tonnage, dimensions, crews, armament, and cost.

One model of a battle ship is shown without its armor, displaying the machinery, decks, and compartments. Quick-firing machine guns are represented and their working demonstrated. Torpedoes, with a full description as to their construction, action, and cost, sea mines, bombs, shells, and shrapnel, a collection of various kinds of powder used in the navy, showing the changing form, color, and composition that the explosive has undergone, are all exhibited and explained by an attendant instructor. There are also fog horns and loud talking telephones, patent sounding lines, diving apparatus, and many other exhibits directly connected with the navy. There is besides an ethnographic collection from the German colonies in the South Seas, Kamerun, and German Southwest Africa.

A very instructive table gives in short space the relative strength of the navies of the great powers, in which Germany is preceded by England, the United States, and France. This same poster is conspicuously displayed in public buildings, showing the people the desirability of Germany taking a higher place as a sea power. The whole agitation is intensely patriotic in its aim. The result is that all classes in Germany are evincing a livelier interest in the rapid enlargement of the country's navy.

JAPAN.

INDUSTRIAL EXHIBIT AT TOKYO.

Consul-General H. B. Miller, of Yokohama, transmits the following information relative to the recent Tokyo Industrial Exposition and its importance to Japan:

The exhibition was opened on March 20, 1907, but in a state of incompleteness. After some weeks, when everything was in place and complete, though merely a municipal undertaking, it was not only equal but superior to the Domestic Industrial Exhibition held in Osaka in 1903, both in its dimensions and more especially in its importance. The exhibition was open 134 days, during which time it had 6,678,903 visitors. The exact number of foreign visitors is not obtainable, but 3,323 were entertained at the reception hall of the auxiliary association. The average daily number of visitors was 66,893, the largest number for any one day 183,705, and the smallest 5,977.

The exhibition marked the zenith of the post-bellum period of Japanese prosperity. Instituted with that end in view, it put before the Japanese the progress of the foreign importing firms of Japan, particularly in the line of machinery, and showed to the world at large the industrial progress of Japan in the last few years, and especially in the last two years. There were exhibited the productions of 944 companies in 1895, with a paid-up capital of about $29,000,000, and of 2,449 companies in 1905, with a paid-up capital of $95,000,000 American currency.

JAPANESE MANUFACTURES—AMERICAN MACHINERY.

The most significant part of the exhibition was the display of Japanese manufactured articles, the scope of which has hitherto been unrealized. In it were embraced products of purely Japanese origin and also many articles of which parts were imported and worked up. The exhibits portrayed the astonishing advances made in this industry by the Japanese.

The art department was a most remarkable exposition of Japan's position on the threshold between the East and the West. Japanese art retains its distinctive features, while occidental art, with some examples of real merit, grows up beside it. In pisciculture and in forestry, beginnings of advance along modern, scientific lines have been made, and were exhibited in their respective departments. No manufacturing of significance is concerned, but these industries seem in advance of agriculture, where modern methods are being tried to some extent, but with antiquated tools, mostly of wood.

An exhibit of paramount interest to the Japanese was the extent to which foreign machinery is imported into Japan and its nature and manner of working. The machinery exhibits were of interest to the American manufacturer or economist principally in showing in a way the comparative position of American-machinery imports in relation to those of other foreign countries and for its displays of Japanese-made machinery.

The Formosan Hall was of surpassing interest to Japanese and Americans alike, displaying to the world the products of a little-known land. At present raw materials predominate, but the day is not far distant when the American exporter should find extensive sales for machinery—sugar refining, mining, sawing, milling, and weaving—in the undeveloped island.

The exhibits of athletic apparatus evidenced that an enterprising house should be able to build up a good business by establishing a branch, under an American manager and supplied with a full stock, either in Tokyo or in Yokohama.

[A comprehensive description by the consul-general of the exhibits and two detail plans of the grounds, together with several newspaper articles concerning the exhibition, are on file in the Bureau of Manufactures.]

DENMARK.

COPENHAGEN AUTOMOBILE EXPOSITION—MOTOR BOATS AND TRUCKS.

Consul-General Frank R. Mowrer writes that for ten days in October the celebrated Tivoli Gardens, of Copenhagen, were the scene of a splendid international exposition of automobiles and accessories, electric machinery, motor cycles, motor boats, propellers, etc., organized under the auspices of the Society of Motor Manufacturers and Agents and the Danish Automobile Club. The consul-general continues:

Aside from the opportunity given to compare the relative value of well-known motor machines and appliances and to effect sales, the object of this exposition was to impress the Danish Government and public with the importance of the automobile industry and to increase their popularity, to the end that road restrictions for their use in this country may be reduced. Although relatively of small area, Denmark is exceptionally adapted for automobiling, being exceedingly flat, with excellent roads through a most interesting country. Here the bicycle became very popular and remained so. It is estimated that 60,000 are ridden in Copenhagen. It is only a question of time until a cheap and economic motor vehicle will come into general use.

Thirty-four exhibits were made by manufacturers or their agents from France, 25 from Germany, 10 from England, 8 from the United States, 4 from Denmark, 4 from Belgium, 1 from Italy, and 1 from Sweden. Of these 87 exhibits, 61 were automobiles for private use, 19 were cabs, omnibuses, and carts, and 7 various. [A list of the leading exhibitors may be secured from the Bureau of Manufactures.]

The impression seemed to prevail that the golden age for the motor has passed. The demand for high-priced machines has been met to such an extent that there is an overproduction, and the probable real future of the automobile is with the low-priced cars. It seems to have become apparent that the annual maintenance of a high-priced car is excessive and unnecessary, and there is a general tendency to prefer comfort to speed. The motor vehicles for general utility are fast gaining ground. Motor trucks for carrying heavy loads, delivery and parcel post wagons, and messenger motor cycles with a platform between the wheels are now seen in Copenhagen.

The coasts of these islands offer excellent opportunities for motor boats, although few are yet in use. Sailing is much followed as a sport, and motor engines can easily be adapted to the yachts as auxiliaries in calm weather or under other conditions. The firms mentioned among the exhibitors are chiefly interested in the expansion of this trade.

AUSTRIA.

CITY OF PRAGUE ARRANGING FOR AN INDUSTRIAL DISPLAY.

Consul J. I. Brittain sends the information that there will be a complete industrial exposition held at the city of Prague, Bohemia, in 1908, extending from May until October, the following being the particulars:

The exhibition will be in celebration of the sixtieth year of the reign of Emperor Francis Joseph, and will be under the auspices of the Prague Chamber of Commerce. Prague is a great commercial and industrial center, and the chamber of commerce is making great preparations to afford every facility for exhibitors. The buildings will be located in one of the most beautiful and artistic parks in Europe and will occupy an area of nearly 14 acres. The buildings will be arranged to accommodate the various exhibits in each class of industry in separate buildings, rather than have very large halls for mixed exhibits.

While the exhibition will be confined to the Prague Chamber of Commerce district, yet foreign products may be exhibited as the property of any local exhibitor. For example, if an American manufacturer wishes his wares exhibited, he can arrange with some dealer in Prague to make the exhibits under the name of the Prague merchant. Doubtless German, French, English, and other European manufacturers will take advantage of the opportunity and see that their wares are everywhere present.

During the exhibition the International Congress of Commercial and Industrial Corporations will be held in the city of Prague. Already more than 2,000 applications have been made for space by persons within the district. Of these there are 38 manufacturers of agricultural implements in Bohemia. It will be advisable for American manufacturers to endeavor to arrange with their Prague customers to make exhibits or procure customers for that purpose.

Even if various lines of American merchandise were sold at a sacrifice for this purpose, the outlay would doubtless bring fine orders in the future. I give the names of the leading dealers in Prague handling lines of merchandise which the American manufacturer should be able to sell here. [A list of any of these may be obtained from the Bureau of Manufactures.]

UNITED KINGDOM.

SMALL-FARM IMPROVEMENTS TO BE SHOWN AT SCOTCH EXHIBITION.

Consul Rufus Fleming conveys the following information concerning buildings and machinery for small farms to be shown in 1908 at the Edinburgh exhibition:

In view of the pendency in Parliament of a bill providing for the compulsory division of agricultural land in Scotland into small holdings, under specified regulations and conditions, the directors of the Scottish National Exhibition—to be held in Edinburgh in 1908—in conjunction with the Highland and Agricultural Society are promoting competitions intended to encourage the devising of improved buildings for small farms. These competitions are divided into sections. Under section 1, for plans and specifications of buildings for farms not exceeding 20 acres, they offer a first prize of £5 ($24.33) and silver medal; second prize £2 ($9.73) and bronze medal; third prize, bronze medal. Under section 2, for plans and specifications of buildings suitable for a 1-pair-of-horses farm, they offer a first prize of £6 ($29.20) and silver medal; second prize, £3 ($14.60) and bronze medal; third prize, bronze medal. In section 1 the buildings will include a dwelling-house of at least four apartments, and accommodation for, say, 1 horse, 2 to 4 cattle, 2 to 4 pigs, and poultry. The cost should not exceed £350 ($1,703). In section 2 the buildings will include a dwelling house of four or five apartments and accommodation for at least 2 horses, about 10 to 20 cattle, 4 to 6 pigs, and poultry, with cart and tool shed, and barn suitable for a small threshing machine. The cost should not exceed £550 ($2,677). Special attention will be given to economy in cost and to durability and comfort. Prize-winning plans with specifications will be shown at the exhibition. Prizes are also offered for building materials suitable for the erection of small holdings, with special regard to their economic value and ease of transport, etc. Medals will also be awarded for a collection of implements and machines suitable for a small holding and a special implement or machine suitable for a small holding.

REAL ESTATE.

FOREIGN MARKET CONDITIONS.

BRAZIL.

ACTIVITY SHOWN IN THE BUSINESS—BASIS OF TAXATION.

Consul-General George E. Anderson, in a report from Rio de Janeiro, states that the great wave of public improvement which has gone over Brazilian cities in the past three or four years has resulted in considerable interest being taken in the real estate situation, especially in Rio de Janeiro, by American real estate men. Mr. Anderson continues:

It is impracticable for American men to take up Brazilian land and improvement matters, except after careful and thorough investigation. There is no business in Brazil which corresponds with that known as the real estate business in the United States. Real property in Brazil is sold generally with no other intermediary than the notary who prepares the papers; buyer and seller are brought together through newspaper advertisements, general business associations, or in other ways. In Brazil there are but two classes of people, the rich and the poor. There is no middle class like that which forms the mass of people in the United States, and property is held by lease, the owners holding it for investment, the lessors having no interest in it other than that of temporary occupancy.

Public improvements on the assessment basis are not common. The heaviest expenses in improvements in Rio de Janeiro the past three years were paid out of a federal government appropriation, a fund originally raised for port improvements. Taxes on real estate are mostly upon a rental basis, and in Rio de Janeiro 10 per cent of rents go to the municipality. Unoccupied property is not taxed; property occupied by the owners is taxed one-tenth of what its annual rent would amount to, the sum being based upon the actual rental of similar property. There are other forms of taxation on property, but they do not affect general real estate holding conditions. The titles to most Brazilian real estate correspond in general to a fee simple in the United States. By reason of Brazilian inheritance and other laws the division of estates, i. e., estates for life, reversions, remainders, etc., are not favored, and titles generally are simple. Property is bought and sold for cash, or upon time payments, as in the United States, but seldom upon any such terms as are common with real estate houses in the United States, especially in the cities.

TRANSFERRING OF PROPERTY.

There is nothing to correspond with the American building and loan association. I am told that property owners expect to secure 10 per cent net over and above tax and similar charges. There is a custom here of leasing property for a certain fixed rental by the year for a term of years, together with the payment of a bonus by the renter to the owner for the lease, the bonus often amounting to more than a year's rental. Fees for the transfer of property are high, and the expense of drawing papers and of legalizing sales is much greater than in the United States. Mortgage matters are about the same as in the United States, second mortgages being common. Court proceedings for the protection of mortgages are fairly prompt and efficient. Where property is looked after by persons other than the owners, it is generally in the hands of attorneys, and what beginning there has been made in developing a real estate brokerage business is in connection with the practice of law and the business of notaries.

An immense proportion of the real estate of Brazil is held by foreigners resident in Europe, especially by citizens of Portugal. Much of this property is held by the descendants of original Portuguese investors, generally families connected with the Brazilian aristocracy under the empire. The interest returns on Brazilian property, while not always regular and not always reliable, are so much higher than interest rates generally in the home countries of the owners that the investments are maintained often at considerable trouble and sacrifice. The money sent abroad each year to pay the interest returns and profits upon such investments is a very considerable item in the adjustment of international balances. Property of this sort held abroad, however, does not work to the betterment of real-estate conditions in Brazil.

EFFECT OF BRAZIL'S MONETARY CIRCULATION.

The present condition of the banking business in Brazil and the state of the country's monetary circulation in recent years has prevented whatever change in real estate matters might have been expected from local improvements, and has offered constant danger to the investor from the outside. Four years ago a European investor could have bought property in Rio de Janeiro on the basis of about 4 milreis to the dollar. His property would now be worth substantially the same in milreis as at the time he bought it, but the milreis would exchange for gold at the rate of a little over 3 to the dollar, and the gold value of his property would be 20 per cent greater. What would have been a profit in this turn of affairs, however, could easily be a loss of a much greater amount any day at an opposite turn of exchange. So long as Brazil's currency is not convertible into gold, such conditions must continue, and foreign investment in Brazilian real estate will be dangerous.

The municipal government of the Federal District is planning the construction of a large number of houses for workmen according to a model specified by the municipality, the plan including exemption for certain taxes for a considerable period and rents at a fixed rate. It is expected that bids for the contract will be received from foreign countries and in behalf of foreign capital, but the details of the scheme have not yet been given the final sanction of the municipal council. The plans call for the eventual erection of 25,000 houses, to rent for $6.25 to $18.75 per month, but when the plan will be actually given effect is doubtful. Persons prepared to entertain such a proposition should write to the prefect of the Federal District, Rio de Janeiro.

SWITZERLAND.

METHODS OF TRANSACTION—BUILDING ACTIVITY AND HIGH PRICES.

Replying to a New York inquiry Consul-General S. C. McFarland, of St. Gall, supplies the following on the buying and selling of property and building activity in Switzerland:

Houses and real estate are for the most part sold by agents, rarely by the owner, to the purchaser. These agents receive for their services generally a commission of 1 per cent from the owner and 1 per cent from the purchaser—sometimes, indeed, 2 per cent from the seller of the property. Sales for cash are not customary. In most cases an installment so considerable is paid that any risk from the side of the debtor in the event of a second sale is thereby obviated if the first seller should be obliged to recall the transaction, as, for instance, in the event of a bankruptcy. For further amounts beyond the installment, mortgages, first and second class, which pay 4½ to 5 per cent, are given. On every sale of a house in St. Gall an official registration fee of 2 pro mille (one-fifth of 1 per cent) is payable. There are about one-third house owners and two-thirds lessees; population about 39,000, with many suburbs under separate government.

House and rent values here are dependent on the prosperity of the export trade. Within eight years these have risen, according to the convenience of their situation for business, 40 to 100 per cent. The United States Government now pays $800 rent for rooms which, although not in the business center, eight years ago cost $360. Exports to the United States of over $12,000,000, as compared with about $4,000,000 four years ago, explain the prosperity mentioned and account for the present almost mushroom growth of St. Gall. Buildings are going up everywhere, the population is increasing, and demand for dwellings, or rather quarters or flats, so far outruns the supply that at present buildings not yet started are completely rented for occupancy upon completion next year. Incidentally, exclusive of the rent question, St. Gall is the most expensive residence city in Switzerland, which, in view of the standard fixed in the Republic's cities to some extent by the liberality or extravagance of tourists, is saying a great deal. It might be also interesting to note that there are no single or detached houses for renting to one family. Only under exceptional circumstances, and at enormous rental, can such premises be secured.

LITTLE VARIETY IN HOUSES.

The usual form, from which there are few variations, is a three or four story structure, with a flat or complete premises for one family upon each floor, each flat having assigned rooms in the attic for servants and boxes, in the cellar for fuel and stores, and each having a right to specific use of wash and ironing rooms in the basement. There are no housemeisters, as usual elsewhere on the Continent. In the middle or better class of such houses now going up, each flat has also bath with instantaneous gas heater, an independent hot-water heating apparatus for living rooms, kitchen gas stove, shelving, closets, etc., all furnished by landlord. Such flats of, say, from 5 to 12 rooms, rent, according to location, size, and character of finishing, from $450 to $1,500. Above this maximum in renting property are only to be found special cases, while below it range all grades of tenements.

Favorably situated building lots in the town have risen 300 per cent in value in the last two years, since which time a number of bankers and more important exporters have erected, or intend to erect, splendid buildings. This is only possible by reason of the quite enormous development of the principal industry of this place—embroideries and laces. Some speculators in house buying or building do so on the chance of a favorable resale. Others again, builders of large banking or business houses, give the management of the building operations into the hands of an experienced architect, paying for the latter's plans for the building and a commission of about 5 per cent on the value of the building for the entire building management. The architect intrusts the execution of his plans to a master builder after examination of and agreement to his estimates of cost of erection; the architect is thus supervising authority and the master builder executive authority. In quiet business times, when the spirit of enterprise is checked and ground values are low, architect and master builder collaborate in speculative building. Mortgages can often be had, after official valuation of the edifice, on houses which are only in process of building. As these valuers are responsible, they value the object—to avoid any personal risk—very low, and below the real value. [An architect and master builder of St. Gall, who is now conducting large building operations, both residence and business, upon the lines indicated, is named by the consul-general and listed at the Bureau of Manufactures. Mr. McFarland adds that from the person in question more specific information could be secured.]

GERMANY.

DECLINE AND FAILURES IN REAL ESTATE AND CONSTRUCTION BUSINESS.

In a report from Frankfort, Consul-General Richard Guenther states that the decline of the business prosperity in Germany first touched the real estate and building trade. He writes:

For years past there has been too much speculation and expansion in this line, especially in the large cities, where numerous new streets were opened and many modern-style houses were rapidly built. Many of these homes were taken by families who had previously occupied the old quarters of the cities, where the houses lacked modern improvements. The banks, private capitalists, and the mortgage banks (the latter alone have over $2,200,000,000 placed in this class of mortgages) freely advanced money to builders and real-estate speculators. This, and the general buoyancy in business, caused the expansion. Since the tightness in the money market set in, many of the loans have been called in; and the mortgage banks can not or will not assist further, as they have difficulty in placing new bonds on the market.

There have therefore been numerous failures among builders and real-estate owners who were indebted for money borrowed, and much depreciation in the value of properties devoted to dwelling purposes. This is steadily going on, and as business keeps declining retrenchment will become the order of the day and will necessarily affect still more disastrously the price of real estate and the building trade, as well as auxiliary lines. The Chamber of Commerce of Cassel, within the Frankfort consular district, in its annual report, recently issued, says:

> The building trade in Cassel has been very unfavorable. A number of larger buildings in course of erection for State and for municipal uses afforded considerable employment, but the contract prices were very low, owing to great competition among the bidders, not leaving more than 2 per cent profit on the work done. The excessive activity in the building trade which has gone on for some years has brought about the present unsatisfactory condition in this industry. At the beginning of 1907 over 2,000 dwellings, principally flats, were standing vacant, and during the year 1906 there were 180 forced sales (by order of the court in bankruptcy) of real-estate properties and 104 cases of receivership for buildings instituted in the Cassel district. The bulk of these failures occurred among builders who do not have adequate capital, though in some cases old and well-conducted building firms had to succumb, while a few of the latter class succeeded in getting an extension or a compromise settlement. The high interest rate on borrowed money made the situation most acute. Many small craftsmen, such as plumbers, locksmiths, carpenters, painters, glaziers, etc., who contributed materials, work, and furnishings to the buildings, have suffered heavy losses since the retrograde movement commenced. A plan is now on foot among these small craftsmen to organize a cooperative society for the better protection of their interests.

What the chamber's report says about the situation of the building trade in Cassel applies with equal force to some other cities in Germany. On the whole, the building trade and the real-estate business are in a most unsatisfactory condition and the future outlook is not bright.

FRANCE.

CONDUCTED ON DIFFERENT LINES THAN IN UNITED STATES.

In response to an inquiry, Consul J. C. Covert, of Lyon, states that the real-estate business does not exist in France as it is known in the United States. He describes it in part as follows:

The great bulk of the best real estate in Lyon is not in the market, and no one is disposed to put a price on it. The best improved property pays from 5 to 8 per cent on what is believed to be a fair selling price. The highest price ever paid for unimproved real estate in the city was $200 and $250 per square meter of 10.764 square feet. The average rental of improved real estate is about 2⅘ cents per square meter. The average net income from improved property is given as 3 per cent. Eight-elevenths of the leases in the city are for $60 or less a year. Apartments rent from $60 to $3,000 a year.

A joint stock company owns every building and all the land on the best business street in Lyon, the Rue de la République, which is about five-eighths of a mile long. The property was purchased by the company when the street was opened in 1853, and not one foot of it is in the market at any price. The value of the land is placed at $300 per square meter and the houses are valued at $5,350,687. The net annual receipts for rent amount to $439,479.

Another company owns and manages large real-estate interests, the bulk of its property having been donated to it for charitable purposes. The greater part of it was swamp land, which has been reclaimed and is now valuable property occupied for business and residence purposes. The net proceeds are devoted to the support of hospitals and homes for the aged poor. It owns over 3,000 acres of land, the greater part of which is in Lyon and the remainder in different parts of France. The income from rents in 1906 was $560,000. The company also has an income of $200,000 a year from bonds which have been donated and purchased.

About one-twelfth of the inhabitants of the city are employed in weaving silk. They live in a quarter called the Croix-Rousse. About one-ninth of them are said to own the apartments in which they live Some of them own only one room.

PANAMA.

RATES AT WHICH PUBLIC LAND MAY BE SECURED IN THE REPUBLIC.

Consul J. C. Kellogg, of Colon, states that all lands in the Republic of Panama not owned by individuals are considered as public lands, and are therefore the property of the nation. He gives particulars as to how they may be acquired:

Public lands are granted for the establishment of national industries, for public uses, for agricultural purposes, and for the establishment of colonies when authorized by law. All persons residing on Panamanian territory enjoy the privilege of acquiring such lands as authorized by law, but foreigners whose native countries do not allow the same privileges shall not be permitted to acquire public lands.

Public lands in the Republic are sold on the gold basis at 50 cents per hectare (2½ acres) for lands to be used as homesteads, consisting of 50 acres or less; $1 per hectare for lands to be acquired by corporations for public utility purposes; 50 cents per hectare for plots of land less than 100 hectares to be used for agricultural or industrial purposes; 55 cents per hectare for plats of over 100 and less than 200 hectares, the price increasing at rate of 5 cents per hectare for each additional 100 hectares or fraction thereof.

The maximum amount of land granted to any one individual can not exceed 20 hectares, or 50 acres. Lands granted to colonies authorized by law shall be granted at the same rate as above mentioned if granted to each colonist separately, but if granted to an agent representing a company of colonists the rate shall be at $1 per hectare; 50 per cent of the amount of the lands purchased must be paid at time of the grant and the balance within twelve months after said date, with interest at the rate of 6 per cent per annum. Nonpayment of the said amount within the twelve months stipulated annuls the grant, and forfeiture is made of the amount already paid.

Parties who may be interested in the laws and who desire further information thereon should apply to the Administrator-General of Public Lands, Panama, Republic of Panama.

MISCELLANEOUS.

COST OF LIVING.

TURKEY.

HIGHER PRICES FOR NEARLY EVERYTHING—CEREAL SHORTAGE.

Consul-General E. H. Ozmun, of Constantinople, states that it is a generally recognized fact that the cost of living has increased considerably in the Ottoman capital during the last few years. His detailed report reads:

It is a common saying in Turkey that when an article rises in price it rarely, if ever, goes back to the low level, but remains a little dearer than it was before the rise took place, and this is almost invariably true. Owing to a prolonged and severe winter 1906 was an exceptional year; foodstuffs, vegetables, meats, and fuel reached famine prices. At one period vegetables were not to be had at all; at others they were sold at three times their usual prices, or at prices one would pay for choice fruits. Fuel (in the absence of cooking and heating by gas, wood and charcoal are used to an incredible extent) during several periods of a few days each could not be had, and when a shipload reached the port the vessel was attacked as if by pirates, to the extent that the police had to interfere and distribute the shipment to various districts, where the scramble and fight were repeated.

Wood for heating purposes could be had a few years ago at 13 piasters per checki ($0.53 per 509 pounds) alongside ship. At the commencement of last year 18 piasters per checki was the ruling price; during a period of severe snow 40 and 50 piasters was demanded; nevertheless, this season, before the winter is here, the price is already 28½ piasters per checki alongside ship, a rise of 58 per cent on last year's price, and it is still rising. Charcoal of good quality (pirnal and meshe, made from holly and oak) was to be had at this season last year for about 40 to 45 piasters per 100 okes (64 to 72 cents per hundredweight); this year the consul-general has bought it for his own requirements at 53 piasters per 100 okes (85 cents per hundredweight), showing a rise of 25 per cent.

ADVANCING FOOD PRICES.

Fruits and vegetables are dearer than they were at this season last year and dearer by at least 25 per cent than they were two years ago. Water and musk melons are fairly plentiful this year and their prices are not above the average; if anything, they are a little cheaper than last year. Chickens which a few years ago could be bought for 4 or 5 piasters each (16 or 20 cents) can not be obtained now for less than 6 or 7 piasters (24 or 28 cents), the prices they reached last year, a rise of almost 50 per cent. For a fowl which could be previously obtained for 7 or 8 piasters (28 or 32 cents) one has to pay as much as 10 or 12 piasters (40 or 48 cents), a rise of about 50 per cent. One explanation offered in this case is that the export of eggs has increased to such an extent that villagers who formerly were willing to sell their fowls for a mere pittance now ask high prices in order to keep these egg producers, with which they part unwillingly, appreciating their money-earning capacities. With the greater demand for eggs for export the prices for local consumption are double what they were a few years ago. Fresh farm eggs cost 2 cents each.

The season for turkeys not having arrived, comparisons of this year's prices can not be made, but emaciated birds sold alive by gypsies, who drive flocks round the streets, cost last season $1 each, whereas previously one only paid this price at a poulterer's for a fattened bird during the cosmopolitan festivals at the end of the year. During the festive season a fish for a dinner party costs $3 to $4. Last year sea bass, which two years ago cost about 35 cents per 2.83 pounds, sold at four times this price; this season it is fairly plentiful and is selling at 40 to 45 cents—still a rise of between 15 and 25 per cent. Mutton, which a couple of years ago could be had for 28 cents per 2.83 pounds, reached double this price last winter, and is still more than 50 per cent dearer than formerly.

These are only a few examples. Neither profits nor salaries have followed the upward tendency, and lately several writers in the local press have called the attention of employers and directors of establishments to the fact that if they expect from their staffs wholehearted service free from worry because of inability to live on their incomes they should take this condition of affairs into consideration and increase the salaries to enable them to live without running into debt.

RENTS AND OTHER EXPENSES.

Another fact one must not overlook in the Levant is that the cost of living is in accordance with one's position, and one has to pay for everything in proportion to his rank.

Notwithstanding the fact that in the European quarter of the city old houses are being demolished and large apartment houses built in their stead, rents are regularly increasing. Some years ago $500 per annum was an average high rent, while double this figure is near the amount demanded now for an apartment flat with seven or eight rooms without heat and often without a bathroom or any lighting fixtures. Wherever the municipality has repaved a street—and to the credit of the new prefect be it said that this has been done in many by-streets—rents have immediately been increased 40 to 50 per cent.

The foregoing alludes to town rents. Owing to the heat four or five months must be spent at some country resort. Season rents for a country house range from $250 to $1,000, according to locality. In the upper Bosphorus, where the diplomatic and consular officers take up their summer residence, the lowest rent for a house for the season is $450. To this must be added between $10 and $15 a month for traveling fares to and fro by ferry. Means of communication in Constantinople are very limited. Because of the absence of respectable street cars and the necessity of using a carriage for going any distance too great to walk, the cost of travel is doubtless higher than in any other city in Europe.

Household help is very unsatisfactory, and one is willing to pay high prices to obtain good servants. A good cook receives $20 a month and requires a scullion at $5 to help in the kitchen. Maids receive $7 to $11.

COST OF CLOTHING—PHYSICIANS AND DENTISTS' FEES.

Gentlemen's clothing from good-class tailors costs from $30 to $55 a suit, which is higher than in several other capitals of Europe. Women's clothing is more expensive than in Paris or London. The cost of clothing for men, women, and children, which in the course of ten years has increased the world over by 20 per cent, has not failed to have its reflex upon this market, and the recent increase of customs duty by 3 per cent and the stamp law, which taxes every business transaction, from the entry of goods in the custom-house to their sale across the shop counter, give the stores other opportunities of further raising their prices on the score of increased taxation. House furnishings can be imported cheaper directly from London than they can be had at stores in this city.

Other exorbitant charges are physicians' and dentists' fees. A physician never charges less than $2.50 for a visit to his consulting room, and $5 is the usual fee for his visit to one's home, or more if in the country. Dentists seem to vie with each other as to who can make the heavier charge. It is nothing unusual to be charged $5 for dentistry for which one would pay $1 in the United States. Although the charges of pharmacists are regulated by tariff issued by the Imperial School of Medicine, this is only a safeguard for the poor, and a prescription of a good physician sent to a reliable pharmacist to be dispensed will be charged for according to the rank of the patient in whose name it is issued.

MISSIONARIES' PAY—BREAD AND FLOUR.

It is safe to say that the cost of living in this city has increased by fully 50 per cent within the last few years, and I have been informed by those with experience that life in this city is more expensive than in Paris or London in the same style. One eloquent comparison may be mentioned of cost of living in the capital as compared to the interior. The American Board of Commissioners for Foreign Missions, which pays its missionaries on the basis of their bare cost of living according to the post at which they are serving and retires them on a pension when their life's work is over, allows missionaries stationed at the capital just double the amount allotted those at an interior post.

The following is an extract from the Levant Herald of September 9, 1907, and advises the official approval of the increase of the price of bread from 45 to 50 paras (para=one-tenth of a cent) per loaf (price at bakery): This is equivalent to 11 per cent rise at one bound, and is only another example of the all-round rise in the necessaries of life:

> The prefecture of the city notifies that from to-day the price of bread has been raised by 5 paras. The increase of the price of bread was demanded by the bakers' corporation, and in consideration of the rise in the price of flour was sanctioned by the council of ministers.

The same newspaper contained the following statement on October 1:

> As has already been announced the Imperial Government has prohibited the export of wheat and has suspended the import duties on grain. The duty on foreign flour has been reduced to 6 per cent, the reduction also applying to Bulgarian flour.

SWITZERLAND.

NECESSARIES OF LIFE DEARER IN GENEVA THAN IN NEW YORK.

Consul Francis B. Keene, of Geneva, furnishes the following information concerning the increased cost of living and the decreased value of the bonds and shares of leading industrial concerns in Switzerland:

Geneva, until about twenty years ago, had the reputation of being a cheap place in which to live. By degrees it has become more and more expensive, until the point has been reached where a prominent woman, who spends her winters in New York and her summers here, has made the assertion that the necessaries of life cost more in Geneva than they do in New York. The increase in the cost of these necessaries was already marked in the years 1904 and 1905, but the customs tariff which went into effect January 1, 1906, gave a new impulse to the advance. There are very few things that have not advanced in price. Bread, meat, wine, and chocolate are all on the increase. Milk, butter, and eggs have reached prices never known before. Nearly everything being dearer, shopkeepers, shoemakers, laundresses, barbers, fuel dealers, all follow the movement with higher rates. Cotton manufactures are almost the only articles that are cheaper. The crops have been far under the average this year, both in quantity and quality, owing to the cold season, and this has had a tendency to increase prices. The vintage in the Canton of Geneva amounts to nearly nothing. In the large Canton of Vaud it will be very irregular, and wine selling prices will vary. An average price will be about 50 centimes per liter (9.65 cents per 1.0567 quarts). The hotels, both in the mountains and in the open country, have not had a profitable season; in comparison with the season of 1906, which broke all records in the number of visitors, it has been very unsatisfactory to them. There were few days that were very hot, and the summer was so short that many residents remained either in their city homes or at their country places. To make matters worse, the stock exchange market has experienced severe falls in the value of nearly all shares and bonds of industrial concerns, especially those making motor cars, a branch of national industry that has become very important. Shares in the chocolate industry have also fallen.

BELGIUM.

APPROXIMATE INCREASE OF TWENTY PER CENT IN FOOD PRICES.

Consul W. P. Atwell, of Ghent, Belgium, says that recent statistics show that food commodities in general have increased in price approximately 20 per cent. He gives these examples:

Flour has advanced from $3.76 to $5.30 per sack, an increase of $1.54. Rice has advanced 12 per cent, chocolate more than 20 per cent, cheese 20 per cent, peas 15 per cent, beans 50 per cent, and oils 40 per cent. These same statistics show an increase of 40 per cent in the price of unbleached cloth, while that of other cotton goods varies from 20 to 25 per cent. Shoes are being sold at 20 cents per pair more than formerly, while the price of meat is exorbitant. The price of coal has also considerably increased. Ten years ago a ton was sold at $4.45, while the price now paid is $5.79.

BERLIN FIRE REGULATIONS.

RULES GOVERNING THE STORAGE OF INFLAMMABLES AND EXPLOSIVES.

Consul-General A. M. Thackara furnishes the following information concerning the means taken for the prevention of fires, municipal fire insurance, and fire losses in Berlin:

To reduce to a minimum the fire risks from alcohol, both pure and denatured, and from other inflammable and explosive compounds, comprehensive police regulations, which are strictly enforced, prescribe in detail the manner in which these materials shall be handled, stored, and transported. These regulations were framed upon the suggestions and advice of experts, after consultation with interested parties, and are based upon practical and theoretical knowledge. In general terms, the regulations are as follows:

1. The stock of denaturing compounds should not exceed at one time 1,102 to 4,409 pounds. They should be stored at a distance of at least 49.2 feet from other buildings or from any open flame. The floors of the rooms should be impermeable and constructed of stone, brick, or other fireproof materials. They should have a slant of 1 to 100, so as to drain into one or more catch-basins, which should be covered with a heavy, substantial fireproof grating. The catch-basins should drain into a cistern outside of the storeroom or into a natural water course or sewer. When drained into either of these, there should be a water connection, with a stop, made with the drain pipes, so that the escaping fluid may be diluted at the junction of the pipes to 30° Tralles before entering the water course or sewer. The cistern should be of sufficient size to hold the maximum contents of the storeroom. The walls of the room should be solid and well constructed, and for 13.65 inches above the floor should have no breaks. There should be no smoke ducts or fireplaces. Openings in walls should be so constructed that nothing could be thrown into the rooms from the outside. Doors must be substantial and made so as to close tight automatically; they must also be fireproof. The fluids should be stored in closed tanks which will prevent the escape of vapors, and these receptacles should be legibly marked to clearly distinguish them from other vessels stored in the same room. Tanks must be so constructed as to leave a space of 4.9 feet between the tank and the walls or ceiling.

2. The storage place should not be accessible to unauthorized persons. It should be protected by an inclosure, kept permanently under lock and key when not in actual use, and the key placed in the keeping of a reliable person.

3. Fire and lights may never be used in or near the storage place, except with the following exceptions, and no smoking is allowed: For lighting purposes only electric lamps covered with globes which inclose the holders and protected by wire cages and Davy safety lamps may be used. The switches for the electric lights must be placed outside the storage room. If the latter is located in a completely isolated shed or inclosure, illumination from the exterior may be effected by tight-shutting storm lanterns securely attached in front of the windows, which are so arranged as not to be opened. Lamps should never be placed on the ground, on account of the danger from heavy benzol vapors.

4. The denaturing materials hereafter mentioned may be used either in the room in which they are stored or in another isolated place where the above regulations are strictly carried out, whether in the open air or in an inclosed room. The room should be on a level with the ground and only accessible from the outside by a door opening outward. It should be well ventilated, with no communication with adjacent rooms. The windows should be tightly closed and should preferably be made of wire glass. Only the denaturants which are required for immediate use should be brought into the room. It can only be heated by a central heating system, the boilers or furnace of which being located outside. The restrictions as to fire, lights, and smoking must be carefully enforced.

5. A copy of the above regulations, especially those regarding fire, lights, smoking, and the entrance of unauthorized persons being forbidden, must be posted in a conspicuous place in the rooms where denaturing is carried on or where the denaturants are stored.

A greater portion of the spirit which is used in Germany for industrial purposes is denatured in the works where it is employed, and especially is this the case when the volume is large. Owing, however, to the fact that the freight charges on the pure spirit are greater than when it is denatured, manufacturers who use comparatively small quantities may obtain the denatured alcohol from dealers working under revenue supervision.

OTHER INFLAMMABLES.

When benzol, benzine, benzoic oil, lithanthracium, or mineral naphtha are used, there is a greater fire hazard and stricter regulations are prescribed. In the police regulations of the city of Berlin, regarding the use and storage of petroleum and its derivatives, the fluids are divided into two classes, namely, (1) those which at a barometric pressure of 760 millimeters (29.94 inches) give off inflammable vapors at a temperature of less than 21° C. (70° F.) and (2) all others. Quantities of more than 22,046 pounds of class 2, or more than 2,204.6 pounds of class 1, may only be stored in special places, and only with the permission of the police authorities. The permission is made dependent on certain conditions.

The storage yard must be surrounded by a wall at least 8.2 feet high and so located that it may be approached from all sides with fire-extinguishing apparatus. The liquids must be stored at least 197 feet from all buildings located outside of the storage yard. The provisions as to the construction of the building and floors are the same (as to catch-basins, cisterns, smoking, posting of regulations, etc.) as have been described for other inflammable compounds. The rooms should be well ventilated, with plenty of daylight, as artificial light may not be used about the building. Work may only be done in the daytime, and during the night no one is permitted to enter except the watchmen or authorized officials. It is forbidden to bring matches into the storage place. No dwelling rooms may be located in the storage yard, except one for the watchmen, and it must be isolated from other parts of the storage yard by a wall.

Quantities of not over 2,204.6 pounds but more than 661 pounds of class 2 and quantities of not over 220.46 pounds but more than 33 pounds of class 1 may only be stored in cellars or in rooms on a level with the ground. In sales rooms only quantities of 110 pounds of class 2 may be kept, but if the liquids are in metal vessels provided with stopcocks for pouring the quantity may be increased to 661 pounds. Only quantities up to 33 pounds of liquids of class 1 may be kept; quantities less than a pint may be sold in glass packages. Not more than 44 pounds of liquids of class 2 and 4.4 pounds of class 1 may be kept in rooms regularly inhabited by people, such as kitchens, offices, restaurants, workshops, etc.

BENZINE AND BENZINE COMPOUNDS.

The following notes on the use of benzine and benzine compounds, which were furnished by a German expert, may prove of some interest:

The vapors of benzine are apt to spread, even when not disturbed by drafts of air, and come in contact with distant flames. For this reason all open fires or lighting apparatus with unprotected flames which could attract the benzine vapors should be at least 49.2 feet from a place where the benzine is used. The heaviness of benzine vapors renders the ventilation of rooms where the liquid is used very difficult. Powerful exhaust fans should be used with their intakes near the floor and not close to the ceiling. No room in which benzine is used should have any communication with other rooms by stairs, shafts, belt openings or ventilating pipes, or by defective flooring. Otherwise there is always danger.

Rubber hose for the conveyance of benzine or benzine solutions should not be used, for the hose is readily affected by the fluid and soon leaks. Even if the rubber hose is vulcanized it is the same, as the benzine quickly dissolves the sulphur, and the claim that in the interior of a vulcanized-rubber hose a protective coating of sulphur is formed is unfounded. Even hose with linen lining is soon penetrated. Only metallic hose should be employed and the hose should be as short as possible.

INSURANCE RATES—FIRE LOSSES.

The increase in the insurance rate for property in which denatured alcohol, denaturants, or both, are manufactured, used, or stored varies mostly according to the situation of the buildings as regards their proximity to other buildings, to the construction of the buildings, and to the thoroughness with which the building regulations and those covering inflammable compounds are carried out. The rates paid to a private insurance company by a large chemical concern located 20 miles from Berlin, which rectifies wood alcohol, are as follows: For the administration and other buildings, situated some distance from the building in which the wood spirits are rectified, stored, and handled, from 19.8 to 29.75 cents per $238; for the sulphuric-acid factory, 77.35 cents, and for the wood-alcohol building, 95.2 cents per $238.

It is said that the German insurance companies, other conditions being equal, very seldom make any difference in their rates between denatured alcohol and the pure spirit. In Berlin the owner of every building must by law insure it in a municipal organization known as the "Städtischen Feurer-Sozietät," or City Fire Insurance Association, at a value carefully estimated and fixed by the expert officials of the company.

The insurable value of buildings in Berlin, of which there were on October 1, 1905, 25,958, was $1,093,386,389. The premium charged for such insurance is calculated from year to year so as to produce an income that covers three items of expenditure—losses on property through fires, expenses of administration, and the costs of maintaining the fire department. For the fiscal year 1905–6 these expenditures were as follows: Losses paid on 2,099 fires, $169,205; cost of administration and maintenance of fire department, $312,515; total, $481,720. The average premium charged was somewhat less than one-half of one-thousandth per cent. In the records of the fire department of Berlin the fiscal or business year is from April 1 to March 31, inclusive.

NUMBER OF FIRES—DENATURING ALCOHOL.

During the year 1905–6 there were 103 large, 235 medium, and 13,688 small fires, making a total of 14,026, in Berlin. The character of these fires may be judged from the fact that of the whole 14,026 only 2,038 were sufficiently serious to justify sounding an alarm. The remaining 11,988 were extinguished by people on the premises or in the neighborhood by the use of water or chemical extinguishers, without the aid of the fire department. Of the 2,038 fires for which alarms were sent in to the fire stations, 12 were of an incendiary origin; 7

were caused by carelessness; 11 by faulty building construction; 67 by faulty heating of industrial plants; 6 by faulty lighting installations for petroleum, oil, or candles; 30 by same for gas; 19 by same for electricity; 318 by carelessness in cooking, heating, and smoking in dwellings; 162 by same in industrial plants; 10 by carelessness in handling inflammable compounds; 48 by carelessness with fire or lights; 25 by negligence with fires or lights; 31 by negligence in cooking, heating, and smoking; 10 by negligence in handling inflammable or explosive compounds; 68 by children playing with matches, etc.; 145 by storing inflammable materials in stoves, heating, and lighting apparatus; 23 by explosions; 174 by spontaneous combustion; 4 by sparks; 3 by lightning; 47 by ignition of soot, and 818 by unknown causes.

After having been partly or completely denatured by the admixture of certain substances which render it unfit for drinking, alcohol used in Germany for industrial and other purposes is tax free. The mixture most used for complete denaturing is the so-called standard denaturant, made of 4 parts of wood alcohol and 1 part pyridine, which is added to the alcohol to be denatured in the proportion of 2.6 quarts to 26.42 gallons. To render the odor of the mixture less disagreeable, 0.50 gram of oil of lavender or rosemary may also be added to each quart.

For automobile and other alcohol motors the spirit denatured with the foregoing denaturant is mixed with benzol in the proportion of from 2.1 to 21.1 quarts of benzol to 105.6 quarts of alcohol. To this mixture half a pint of methyl violet dye is usually added to serve as a coloring medium to distinguish motor alcohol from burning spirits.

Wood alcohol, which constitutes the principal part of the standard denaturant, is in itself more dangerous in regard to fire risks than the alcohol with which it is mixed, and theoretically the addition of the denaturant increases to some extent the danger from fire, but in practice in Germany no distinction is made as to the fire hazard between denatured alcohol and that which has not been rendered unfit for drinking purposes. When benzol is used, however, the rates of insurance are increased and more stringent regulations for the storage, handling, and transportation of the compound are prescribed.

MARINE PRODUCTS.

CEYLON.

PEARL-FISHING INDUSTRY—VARIED GOVERNMENT INCOME.

In a report from Colombo, Consul E. A. Creevey says that of the world's great fisheries none can compare either in point of antiquity or in the continuity of their prosecution with the pearl fisheries of Ceylon, which he thus describes:

A former Ceylon marine biologist states that no statistics exist of the revenue from pearl fisheries under Portuguese rule, while under the Dutch, from 1666 to 1796, the government proceeds varied from $7,000 to $340,000 annually. England took control in 1796, and two years later the revenue went up to $710,000. The fluctuations, however, were heavy, the income from pearls dropping in 1815 to less than $2,000. In 1904 the government received from this source $345,310; in 1905, $797,683, and in 1906, $446,064.

The pearl oyster is distinct from the common edible oyster, and while somewhat resembling the latter in shape has thinner valves, and it is provided with a byssus, or cable, as it is commonly called, by which it holds on to the rocks and other substances at the bottom of the sea. The banks where they grow are called "paars" and, it is believed, extend along the northwest coast of Ceylon, from Negombo to Mannar.

THE PRELIMINARIES TO A FISHERY.

The fishery, when conducted by the Ceylon Government, was during the calm months of the northeast monsoon—February, March, or April. In October or November the inspector of the pearl banks visits the fishing grounds with divers, who bring up samples of oysters from the banks, and the position of the ground where oysters are found is marked by buoys. The limits—north, south, east, and west—of the grounds, the age, condition, and supposed quantities of the oysters being ascertained from the number of oysters the diver brings up from each dive, a calculation is made of the probable number five divers constantly at work for six hours a day would obtain. The quantity is thus estimated.

When it has been thus ascertained that there are oysters of from 5 to 6 years old in sufficient quantities to be fished, a sample of from 10,000 to 20,000 is taken to be washed, and the outturn of the pearls valued. If this justifies the declaration of a fishery, notice is given in the Government Gazette and the newspapers in India and Ceylon that a pearl fishery will take place, from such or such a bank, estimated to afford employment for so many boats for so many days, and a statement is given of the outturn of the samples washed, giving a description, weight, and value of each kind of pearls found in the given number of oysters· The particulars are given on the results of the inspection in October or November.

Early in February following, another sample of oysters is taken, washed, and valued, so that this outturn may be compared with that of the preceding fall, and thus give the latest condition and prospects before fishing commences. It is by this sample that the speculators are guided in bidding for the oysters until they have washed and sampled their purchases.

A FISHERY CAMP—DIVING AND FISHING FOR OYSTERS.

Marichchikaddi has, during recent years, succeeded Silvatturai, and will probably become the permanent fishing camp, because its location affords easier access to the Cheval and Periya paars, and is the only suitable place for fishing the Muttuvaruttu paar. In December it is a waste, given over to a couple of hundred poverty-stricken villagers and herds of wild or half-wild buffaloes. In January work begins, and by February the miracle is wrought. Day after day vessels of many descriptions arrive from India and Colombo, disembarking a motley crowd of pearl merchants, oyster buyers, divers, traders, and coolies by the hundreds. By the magic of the cadjam and of bitter necessity a town arises, and within a week this pearl metropolis of the world has a population of 40,000 to 50,000—a city inhabited by workers only. A thoughtful government has already established an ample police force, a sanitary corps, hospitals with a trained medical staff ready for every emergency, a magistracy, postal and telegraphic services, custom-house, and harbor master's office. The main street is an open thoroughfare 40 feet broad, with shops on the one side and the quarters for the divers on the other.

At midnight a signal gun is fired and by sunrise the fleet, numbering sometimes 250 boats, is at anchor around an old bark which serves as a mark on the center of the fishing ground. A signal is fired from the inspection ship to begin operations, and the sound of the gun has not died away before there is a great splash as half of the divers drop into the sea.

The number of oysters obtained at each dive depends upon whether they are close together and the nature of the ground; if very rocky, the oysters are not easily detached and picked up. Eighty oysters are sometimes collected at one dive, but 40 to 50 is very good. A day's fishing varies considerably. The record take in one day is 3,905,850, which was the result on the eighteenth day of the fishery of 1904.

In a recent report from Consul-General William H. Michael, of Calcutta, he states that the Ceylon Company of Pearl Fishers, according to the Times of Ceylon, has declared another dividend of 30 per cent on ordinary and 75 per cent on deferred shares.

COLOMBIA.

FISH, TURTLES, TORTOISE SHELL, ETC., ON COAST AT CARTAGENA.

Consul Isaac A. Manning, of Cartagena, in response to a request for information regarding various marine supplies of the Colombian coast, writes:

The opportunities for deep-sea fishing on this part of the Colombian coast seem well worthy of consideration, especially if it be true that the supply of deep-sea fish hardly equals the demand in the United States. Green turtles are found here in large numbers, and are constantly on sale in the local market. They are said to be of excellent quality, but no effort is made to export them. The fish market of Cartagena is famous, and displays as delectable fishes as are taken from the sea at any place in the world. It is claimed that on the fishing banks here are found great quantities of Spanish mackerel, jewfish, red snapper, tarpon, and many other valuable market fishes. There was at one time a fish cannery here, which achieved but little success, probably through poor management, etc. With the establishment of a cold storage plant at Cartagena, now under concession, fish could be easily shipped to the markets of the United States by immediate transfer from the cold storage here to cold storage aboard ship.

The bay of Cartagena is rich in sponge beds and the local fishers for sponges find some fine in quality and large in size. These are taken and handled in a crude way by the "bumboat" men only, and sold alongside vessels in the harbor, no effort being made to export them in a businesslike manner. The same may be said of the great quantities of mother-of-pearl found here, and some practical effort to develop this industry might be successful. Lobsters abound and are said to be of excellent quality. A small oyster is taken in the bay, but it has little value as a food product and no merchantable value.

The hawkbill turtle, "sea tortoise," or, as locally known, "carey," is found in abundance, and local venders are to be seen alongside every ship arriving offering articles for sale made from this shell. Combs, hair ornaments, etc., are made in fancy and fantastic shapes, and the coloring and marking of the shell in some cases is beautiful. Little of this is exported, although it seems that a practical effort to develop this trade or industry would be profitable.

CANADIAN MAIL SERVICE.

POSTAL RETURNS SHOW PROFIT—LOWER RATE WITH MOTHER COUNTRY.

Consul Harry A. Conant, writing from Windsor, states that Canada's growth, both in population and in material progress, is apparent in the development of her postal facilities, in some departments of which she leads the world. He has therefore collated the statistics relating to the post-office system, as follows:

From 1896 to 1907 the number of post-offices increased from 9,193 to 11,377, or 25 per cent; the number of miles of travel annually with the mails increased from 30,552,683 to 42,841,437, or 40 per cent; the number of money-order and postal-note offices increased from 1,310 to 9,091, or 594 per cent; the number of letters carried in the mails increased from 116,128,300 to 362,281,280, or 212 per cent; the number of savings-bank offices increased from 755 to 1,043.

During the last fiscal year the establishment of 513 post-offices was authorized, the largest number in any one year in the history of the department. The mail service by railway has been increased by 327,145 miles, and by stage 121,084 miles. The mail service by steamboats has been increased by 234,354 miles, making a total increase in the annual mileage of mail routes of 702,547 miles.

The department has accumulated a surplus in nine months of over $9,000,000, while at the same time no branch of the department has been neglected nor its efficiency allowed to diminish. The rates, both as regard the money-order system and postage, between Canada and the United States and between Canada and Great Britain have been reduced. The postage rates between Great Britain and her colonies have been reduced from 5 cents to 2 cents per ounce.

The salaries of postmasters and officials have been materially increased. Rural free delivery is as yet unknown in Canada.

ROAD BUILDING IN GREECE.

MACADAM IN GENERAL USE—COST OF CONSTRUCTION.

Vice-Consul-General B. Melissinos, of Athens, advises that the system generally in use for road laying in Greece is macadam, or a layer of an average depth of about 6 inches of rough cobbles with uneven edges of a diameter of about 1 to 2 inches, covered with a layer of sand of a depth of 1⅓ to 2⅔ inches and pressed by a steam road roller. He adds:

> The preference is given to the latter system on account of its cheapness, the cost per square meter (1 square meter or centare=1.196 square yards) being 5 to 6 drachmas (5.45 drachmas=$1), except in the Thessalian district where, owing to the scarcity of stone, the cost amounts to 10 drachmas per square meter. Lately some of the streets and squares of Athens and Piræus, covering an area of about 150,000 square meters, have been laid with artificial asphalt at a cost of about 15 francs (1 franc=19.3 cents) per square meter. This work has been done by foreign contractors [name recorded at Bureau of Manufactures]. The seaside walk of Piræus, representing an area of 20,000 square meters (about 8 square miles), is being laid with Vesuvius lava flags at a cost of 13 drachmas per square meter.

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The publications made up chiefly of reports from United States consular officers in foreign countries include the following:

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The publication of reports on specific subjects, in separate form, was begun in 1890. The editions of many of them are exhausted. The following titles are available for distribution:

Vol. 26 (1903).—Briquettes as Fuel in Foreign Countries.
Vol. 27 (1903).—Markets for Agricultural Implements and Vehicles.
Vol. 32 (1904).—Foreign Markets for American Fruits.
Vol. 39 (1907).—Cotton-Seed Products in Foreign Countries.
Vol. 40 (1907).—Motor Machines.
Foreign Markets for Sale of American Cotton Products.
Cotton Fabrics in British India and The Philippines.
Leather and Boots and Shoes in European Markets.
England's Cotton Industry.
Tariff series:
No. 1. Tariffs on Leather and its Manufactures.
No. 2. Tariffs on Agricultural and Animal Products.
No. 3. Tariffs on Machinery, Machine Tools, and Vehicles.
No. 4. Conventional Tariff of Servia, based on Treaties with Great Britain, France, and Italy.
No. 5. Commercial Agreement between the United States and Germany.
No. 6. Customs Tariff of France.

A few copies of reports made by special agents on trade conditions in the countries visited by them are also available, as follows:

Argentina.
Asiatic Turkey.
Brazil.
Central America and West Coast of South America.
Cuba.
India.
Japan and Korea.
Mexico.

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MONTHLY CONSULAR
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FOREIGN COMMERCE.

ASIATIC TURKEY.

INVITING MARKET FOR AMERICAN GOODS.

OPPORTUNITIES FOR THE SALE OF MANY ARTICLES IN ASIA MINOR.

Consul E. L. Harris furnishes several reports concerning the trade outlook in Smyrna and in Asia Minor, of which the following is a condensation:

Practically everything that is needed in a Turkish household is supplied from abroad. There are no manufacturing establishments in Turkey to bid for the trade. The stores in Smyrna, which cater to the country trade in this respect, are doing a fairly good business. The sale of toys is becoming widespread throughout the country; likewise other novelties. Therefore the American firm which desires to reach the average Turk in the country districts must specialize. A cheap grade of watches could be sold in the country districts; also cutlery and kitchen utensils, if made after existing styles, could be introduced.

The creation of waterworks in Smyrna a few years ago has made possible the use of hydraulic elevators, of which quite a number have been installed in large stores and warehouses. Most of these elevators are for freight and are principally imported from England. The first hydraulic elevator for passenger service is now being installed in a new hotel. A larger one is also being erected in the suburbs for carrying passengers from the main road to the top of the cliff. This elevator will have a lifting capacity of nine persons, including the conductor, and will travel 110 feet vertically at a speed of 1½ feet per second. Hydraulic elevators have a promising field before them, owing to the cheapness of city water for industrial purposes, which costs but 1.32 cents per ton.

INTRODUCTION OF THE CINEMATOGRAPH—FILTERS—WAX.

In the summer of 1907 the first cinematograph was established in this city. It is under the management of an Italian company. The enterprise is proving so profitable that several business men are contemplating the installation of a competitive cinematograph. Unquestionably Asia Minor offers a great field for the cinematograph, as there are a great many cities and towns in the interior where this sort of enterprise would meet with as much success as in Smyrna. All machinery directly connected with the moving pictures is loaned by a Paris firm without charge, but the firm shares in the profits. The films are also supplied by the same firm for a nominal rent.

Filters were at one time quite in vogue in Smyrna, but their use has been practically abandoned since the establishment of waterworks. This should have been the cause of a more extensive use of filters, and if a cheap article was placed on the market it should find a ready sale.

Paraffin wax is imported into this city in considerable quantities. The churches, not only in Smyrna, but throughout the interior of Asia Minor, use this article for making white candles. About $6,000 worth is imported from Austria annually, and besides considerable quantities are shipped from other countries. The paraffin sold here is of two grades, one selling for $13.50, the other for $14.65 per 220 pounds.

LOCKS, PADLOCKS, AND WIRE SCREENS.

Considerable trade is done in Smyrna in locks and padlocks, supplied chiefly by Germany in the cheaper goods, and by France and England in more expensive articles. Very little of the higher quality of goods finds a ready market in this district, and that generally consists of special orders for definite purposes. It can be safely predicted that, while the demand for better grades is gradually increasing, the bulk of the trade, for some years yet, will go to the lowest bidder, irrespective of quality or improvements. The same statement, by the way, can also be applied to other branches of the hardware trade. It would be well for American lock manufacturers who may be desirous of entering this field to cater to the present needs of the country, even if that should involve turning out inferior goods, for it must be borne in mind that it is only by first pleasing the buyer, and through persistent efforts, that he is gradually educated to appreciate and demand high quality. This wise policy of not contradicting customers is the secret of German commercial success in the Levant. American manufacturers in this line who may desire to introduce their product in these parts should send catalogues in triplicate to this consulate.

Few houses in Smyrna are fitted with wire screens, and few cities in the world are more in need of them. Mosquitos pester the inhabitants from June to the end of November each year. There should be an opportunity for wire screens which could easily be shipped to Smyrna in rolls. There are dealers here who might be induced to take up the matter. As in every innovation, no considerable volume of business could be expected until after the field had been thoroughly canvassed.

LAMPS AND LAMP WARE.

Only about 20 per cent of the population of Smyrna use the gas supplied by the Ottoman Gas Company. On account of their cheapness, the middle and poorer classes still use petroleum lamps, which are imported not only for local use, but also for the interior of Asia Minor and the islands of the Archipelago. The annual importations are estimated at $40,000. American metal lamps might easily be introduced here by a skillful agent, providing the prices are as low as those offered by European competitors. In any case three months' credit should be given.

From current reports it would seem that this is an opportune time to introduce American glass-lamp cylinders. The one firm dealing in this article on a large scale is increasing the price and practically refusing orders because it has more orders than it can fill. It would be advisable for American manufacturers to send catalogues and samples, if possible, together with terms and prices, to the firms whose names I send [on file in the Bureau of Manufactures]. The trade in oil burners is of importance in Smyrna, the annual sales amounting to $70,000. It seems that American manufacturers have never attempted to share in this trade. Thus far oil burners have been imported chiefly from Austria and Germany, and the prices range from $2 to $20 per hundred.

PAINTS AND VARNISHES.

The Smyrna trade in paints, varnishes, and painters' supplies is well worth looking after in spite of the fact that it will take some time before well-known European brands are displaced. Some $30,000 worth of linseed oil is imported, chiefly from England, while the pigments, amounting to about an equal value, come from Germany, Austria, France, and England. England and Holland supply the greater part of the varnish trade in the ordinary grades, while France supplies the higher qualities, and also enamel paints, which are now used quite extensively. The share of the United States in the imports of paints and varnishes is limited to antifouling copper paint for vessels' bottoms. Manufacturers who are thinking of entering this market with the intention of making a success of it should be prepared to meet with difficulties, and they should also bear in mind that they will be put to some expense before their business is established on a firm basis.

One of the largest paint importers in Smyrna with whom I recently had an interview stated that he would be willing to take up the American article provided qualities and prices were on a level with those of European brands. He referred particularly to white zinc as the pigment which is imported in the largest quantities. He also stated that quotations would have to be accompanied with samples in small tin boxes.

TALKING MACHINES AND CASH REGISTERS.

There is scarcely another country which presents such a good opportunity for phonographs as Turkey. This applies especially to the best quality of talking machines. There has been a tremendous sale of cheap machines during the past few years, several thousand having been sold in Smyrna alone. In the interior cities of Asia Minor there are no theaters and concert halls to speak of, and the Greek and Turkish population have taken so readily to the phonograph that this and similar instruments have become popular household acquisitions. What is needed now is a superior instrument for the homes of the better classes. If catalogues of high-grade instruments, together with lists of records, are sent in triplicate to this consulate, I will endeavor to put them in the hands of dealers who may be induced to take up this line and push it on the Smyrna market.

The successful introduction of cash registers in other countries prompts me to call the attention of interested manufacturers to the lack of these appliances here and to suggest that an effort be made to exploit this new field. There is no doubt that many difficulties of a mechanical nature would have to be overcome in order to bring out a cash register that would adapt itself to the trying currency of this country. If it could be done, a large trade would result in that class of machines throughout the Turkish Empire. The problem would be a hard one to solve, but should any manufacturers care to make an effort toward solving it, and should they be in need of additional information on the subject, this office will gladly furnish it. [A complete list of the Turkish coins on both gold and silver basis, to which cash registers would have to be adapted, accompanied the report, and is on file in the Bureau of Manufactures.]

DEMAND FOR ARTICLES OF WOOD—CERAMICS—HARNESS.

There is an opportunity here for the sale of wood mantels, fittings for door and window frames, doors and blinds, balconies and staircase parts. Most of these articles have been manufactured here from foreign lumber, chiefly from Roumania, which is not proving satisfactory for the reason that it is knotty, light, and seldom seasoned. Some years ago a few ready-made doors and blinds were imported from northern Europe, but the attempt did not prove successful. Of late interested parties here have turned their attention to America for supplies. The Aidin Railway Company now uses great quantities of timber from Pensacola, Fla. Within the past two years large sheds have been constructed in order to protect it from the heavy rains, and also that it may become thoroughly seasoned. This railway now practically constructs all the woodwork of its coaches and freight cars in this city. Several hundred cars are built each year, the chief framework consisting of American timber.

The manufacture of bricks and tiles, and other earthenware, such as kitchen utensils, pottery, etc., is an industry as old as the history of Asia Minor. The same primitive methods are employed in their manufacture as in ancient times. Of the bricks and tiles imported for use in building the better class of dwellings and business houses, most of them are imported from Marseille and other European ports.

The annual amount of brick used in Smyrna is estimated to be 12,000,000; that of tiles 9,000,000, of which one-half is imported. The price of native tiles is $5.60 per thousand and of those imported $24 per thousand. The price of bricks varies from $4.40 to $5.50 per thousand.

The better class of harness and saddlery used in Smyrna and the surrounding country comes from England. American designs are more simple than the English make and are probably cheaper, but just as durable and serviceable. [Manufacturers of all the classes of merchandise alluded to are invited to send catalogues and other printed matter to Consul Harris, who states that they will be placed where they will do the most good.—B. of M.]

A BRITISH REVIEW.

The British consular representative at Smyrna recently reported as follows:

The new customs tariff, increasing the duties from 8 to 11 per cent, came into force on July 12 last. Some decided improvements in the customs service have also been recently effected. The new mining law has given an unmistakable impetus to prospecting enterprises, and a development of the mining industry is expected. New openings for trade are apparently absent, but it is noted that the extreme measures formerly adopted against all electrical contrivances are being gradually relaxed.

The milling industry occupies the foremost rank. Smyrna has about a dozen well-equipped steam flour mills. Improved and up-to-date machinery has been introduced, and the industry, it may be said, is organized on the most perfect system that can be obtained. Both the French and British systems are on trial, and both are turning out excellent work. The manufacture of machinery, tools, and implements, boilers, engines, nails, oil presses, etc., has been steadily developing and very creditable works are in existence. One of these establishment is employing 300 persons. All possess foundries and carry out important shipping repairs. More could be done if Smyrna had a much needed dry dock. Two factories have been recently started for dyeing yarns. Both are of British enterprise, although the men who carry out the technical part of the work are Germans. The Ottoman Gas Company (British) has extended its network to Cordelio, a suburb of Smyrna.

It is not generally known that, apart from the very important carpet industry, a considerable domestic industry in textiles is carried on in this district; that is, yarns for carpets, bath towels, shawls, socks, underclothing, bed covers, material for men's suits, etc., chiefly used by the lower classes. The chief centers of the industry are Saraikeuy and Magnesia.

In addition to numerous oil-press factories, two factories for extracting oil from crushed olive stones have just been started. The oil, which is extracted by chemical process, is used in the manufacture of soap. A local firm has succeeded for the first time in Smyrna in tinning sardines and fruit, and another in extracting perfumes and essences from various native aromatic plants, of which there are great varieties and abundance in this country. Confectionery, furniture, and shoemaking all made great progress in recent years, and well-equipped factories are in existence. The manufacture of soda water is carried on extensively, and two factories for making bricks and tiles in European style have been started by natives. Licorice paste is manufactured in two local establishments.

DUTCH TRADE ENERGY.

EXEMPLIFIED BY THEIR CHAMBER OF COMMERCE IN SMYRNA.

Consul Harris also cites the work of the Dutch commercial organization at Smyrna as an evidence of the continued efforts of the Netherlands to secure trade in Turkey and the Levant:

The Dutch chamber of commerce in this city was founded in 1902. It has for its aim and scope the development of trade relations between Holland and her colonies and the Ottoman Empire. In order best to achieve this result special attention is paid to all matters pertaining to commerce, navigation, industry, agriculture, and the raising of cattle. Serious consideration is also given to the treaties governing commerce, customs tariff, quay and port dues, freights by sea and land, rail and tramways, posts and telegraphs, concessions, fisheries, etc.

The chamber also takes upon itself to point out to Dutch merchants all changes and modifications in the Turkish laws governing or regulating commerce and industry, and at all times to insist upon the revocation of any restrictions which may be enacted tending to prejudice the trade interests of the Netherlands in this part of the world. All necessary information is furnished in regard to Ottoman law which deals directly with commercial affairs. This is also done in regard to weights and measures as well as local customs of purchase and sale. The home chambers of commerce are furnished on demand with all kinds of information concerning local markets with a view of interesting Dutch merchants to send their wares to this country.

One chief feature of the chamber is to indicate to Dutch manufacturers and merchants the kind of articles most in demand in Smyrna, especially those sold in this locality by foreign competitors, with all details regarding prices, packing, freights, trade-marks, etc. Addresses of business houses in Smyrna, and also those of other cities in the Turkish Empire, as far as known, are furnished upon request, for the purpose of increasing the importation of Dutch manufactured goods, as well as the exportation of manufactured products. Foreign merchants residing in Smyrna can obtain at any time from the chamber the names of the leading manufacturers of Holland and her colonies. The membership dues of each member amount to $4 a year.

Thus even Holland in Smyrna is putting forth every effort, not only to retain what trade she has in the Levant, a remnant, perhaps, of what it was two centuries ago, but to obtain a still greater share of the ever-growing markets in this country. At one time the Dutch colony in this city was the most important of all, and even to-day, after the advent of the English, French, Italian, and German colonies, which now surpass it in size, it still retains a position of influence. The members of the Dutch colony are active and energetic. In addition to the chamber of commerce they are just now completing a fine new church and hospital.

COMMERCIAL CONDITIONS.

AMERICAN TRADE AND HOW IT MAY BE ENLARGED AND IMPROVED.

In reply to a request for a list of Beirut importers—which is placed on file in the Bureau of Manufactures—and information relative to commercial conditions in Asia Minor, Consul-General G. Bie Ravndal, of that city, transmits the following report:

Generally speaking, American trade is making progress in these regions, both in value and variety. The American goods sold here now comprise petroleum, oleomargarine, beer, canned groceries, leather, wire nails, cotton goods (piece goods, blankets, hosiery, etc.), pumps, paints, drugs, hardware, furniture, machinery (agricultural, milling, irrigating, sewing, and typewriting), and the goods which could be profitably introduced are flour, lumber, coal, cotton-seed oil, biscuits and crackers, refrigerators, metal bedsteads, shoes, stoves, enameled ware, lamps, clocks, jewelry, printing paper, mechanics' tools, iron beams, iron piping, petroleum engines, etc.

Special efforts should be made to increase the sales of American cotton cloth, which, in the opinion of the special textile agent of the Department of Commerce and Labor, who recently visited here, is entirely feasible. Cotton textiles constitute more than one-half the total imports of these markets, amounting to about $15,000,000 per annum. [The exports of cotton piece goods from the United Kingdom alone to Asiatic Turkey in 1906 amounted to 294,979,400 yards, valued at $15,579,885.—B. of M.]

Owing to railway extension in Asia Minor, Mesopotamia, and Arabia, Beirut is assuming larger commercial proportions, while since the inauguration of the Austrian Lloyd weekly service between Trieste and this port mail from New York can reach here in fifteen days and cargo in thirty days. American goods, if proper heed is paid to sailings, can now reach this market as quickly as goods shipped from Hamburg, Liverpool, or Antwerp and at approximately the same freight cost.

Owing to recently established parcel-post conventions with some of the European countries and to the existence of post-offices in the principal seaport cities of Turkey, American samples can be sent more quickly than formerly, although this indirect parcel-post system leaves much to be desired.

PRESENT OPPORTUNITIES.

Turkey in Asia offers opportunity for the profitable investment of American capital in public works, such as railroads, harbors, electrict street-car service, electric-lighting plants, telephones, waterworks, tourist hotels, and in developing its natural resources, which now lie dormant, in mines, silk-reeling establishments, and irrigating projects. Such investments are of great importance to the growth and stability of foreign commerce. There is no bank anywhere within reach where drafts on the United States may be purchased, which is a drawback to trade transactions.

I am strongly in favor of the establishment here, under direct American management, of an agency for American manufacturers, well supported and supplied with samples to meet the increasing demands of Asiatic Turkey. Such an agency would not only work up trade in the most feasible and successful manner, but it would do away with the large commission charges now exacted and enable American manufacturers to find out where credits could be safely given, etc. It should be remembered that Syrian wholesale dealers are compelled to give long credits to their customers. In the absence of such trade agencies, the next best trade auxiliaries are commercial travelers carrying samples and authorized to offer quotations. If any advertising is done for Asiatic Turkey, it should be in the form of posters in the Arabic language. There are many Arabic printing offices in the United States.

The American college at Beirut, a nonsectarian institution, has an attendance of about 900 young men from Egypt and the Sudan, the Greek and Turkish archipelagoes, Asia Minor, Syria, Mesopotamia, Arabia, and Palestine, who, to a great degree, graduate as merchants, bank officials, clerks, etc., and become pioneers of modern trades and industries in the cities and towns throughout the countries mentioned. To familiarize those students with the products of the farm, mine, forest, and factory of the United States I would recommend that American commercial and industrial publications and samples of natural and manufactured products be sent to the library and museum of the college, which, no doubt, will be especially appreciated.

JAPAN.

TRADE OF KOBE.

INCREASE IN IMPORTS AND EXPORTS—HOW THE UNITED STATES STANDS.

Consul Hunter Sharp submits the following résumé of the foreign commerce of the important Japanese commercial district of Kobe for the first six months of 1907:

Notwithstanding the general complaints as to the commercial depression throughout Japan during the first half of the past year, new companies have been formed and many of the existing ones increased their capital. The spinning and weaving industry has shown the most improvement, due to the extension of the market in China, Manchuria, and Korea.

The imports for the first six months of 1907 amounted to $61,398,102 for Kobe and $9,044,957 for Osaka, against $55,343,435 and $5,175,423, respectively, for the corresponding period of 1906. This was an increase of $6,054,667 for Kobe and $3,869,534 for Osaka, making the aggregate increase $9,924,201 for these two prominent ports. The increase occurred chiefly in raw cotton, metals, machinery, and fertilizers.

There was a large increase in the importation of raw cotton, caused by the great development in the spinning industry, and a considerable increase in the importation of metals and machinery, due to the extensions of the undertakings of old companies or the formation of new ones. The demand for various kinds of fertilizers has been on the increase of late years, which is significant of an intention to improve agricultural methods in Japan. The imports of foodstuffs, such as flour, wheat, and comestibles in tins, and also of leather, have greatly decreased in consequence of the discontinuance of war requirements.

COTTON AND SUGAR TRADE—IMPORTS AND EXPORTS.

The exports of cotton goods, which represent a respectable amount each year, shows a steady increase. The market for yarns is in China, Korea, and Manchuria, while small quantities of tissues are even exported to America, Europe, and Australia. Sugar is now exported from this district. Every encouragement is being given to native refineries. The revised law in force for two years from April 1, 1907, allows to licensed refiners a rebate varying from 72 to 97 cents per 133⅓ pounds on the amount of raw sugar imported to be refined in Japan for domestic consumption, less such amount as fails to reach

Dutch standard No. 15, and a rebate varying from 82 cents to $1.12 per 133⅓ pounds on similar sugar exported.

The imports and exports of Kobe and Osaka by countries for the first six months of 1906 and 1907 are shown in the following statements:

IMPORTS.

Country.	Kobe.		Osaka.	
	1906.	1907.	1906.	1907.
United States	$9,947,774	$12,294,868	$245,770	$126,868
Australia	330,078	264,095	66,697	5
Austria-Hungary	285,414	277,613	....	....
Belgium	1,286,824	1,701,502	14,412	85,955
British India	14,538,560	16,648,103	306,514	2,154,975
China	7,044,541	4,940,740	1,846,089	2,038,359
Dutch India	710,598	674,760	1,098,951	534,808
Egypt	354,922	434,402	....	....
France	430,913	695,546	147,997	313,083
French India	1,085,646	1,131,652	....	....
Germany	5,371,474	5,420,538	277,347	256,415
Korea	304,734	736,267	630,640	2,561,269
Straits Settlements	395,668	637,637	(a)	(a)
United Kingdom	10,613,692	11,698,846	918,762	677,169
Other countries	2,643,097	3,847,033	122,246	297,056
Total	55,343,485	61,898,102	5,175,423	9,044,957

EXPORTS.

Country.	Kobe.		Osaka.	
	1906.	1907.	1906.	1907.
United States	$4,505,561	$5,161,025	$4,729	$58,250
Australia	354,006	406,682	58,908	26,196
Austria-Hungary	210,681	182,362	....	....
Belgium	163,665	209,216	....	....
British India	1,004.237	1,075,700	66,639	189,139
China	8,990,758	8,212,676	8,633,057	10,212,201
Dutch India	232,564	272,975	3,071	82,868
Egypt	25,393	43,649	....	....
France	584,066	1,186,286	....	....
French India	6,062	12,443	....	....
Germany	1,233,031	1,964,621	9,798	22,310
Korea	195,589	222,621	3,090,741	3,716,671
Straits Settlements	524,165	534,743	(a)	(a)
United Kingdom	1,775,928	2,456,316	24,708	80,255
Other countries	5,568,845	6,696,678	1,403,621	300,968
Total	25,374,501	28,637,942	13,285,272	14,638,858

[a] Included in British India.

The imports into and exports from Kobe and Osaka during the first six months of 1907 are shown in the subjoined tables:

IMPORTS.

Articles.	Kobe.	Osaka.	Articles.	Kobe.	Osaka.
Beans	$806,854	$203,087			
Cotton, and manufactures of:			Iron and steel manufactures—Continued.		
Raw ginned	26,968,428	2,815,981	Machinery	$2,358,616	$49,962
Unginned	444,412	....	Plate and sheet	1,538,145	....
Prints	828,596	....	Pig and ingot	691,249	27,689
Shirtings	814,587	31,992	Oil: Kerosene	970,295	....
All other	1,041,272	31,723	Oil cake	1,658,066	....
Flour, wheat	518,312	....	Rice, etc	2,966,114	1,739,823
Glass	838,742	....	Sulphate of ammonium	1,295,680	....
Hides	144,415	246,094	Wool	443,236	372,530
Iron and steel manufactures:			Woolen goods, etc	707,843	70,610
			Zinc	497,141	....
Bar and rod	1,051,402	31,835			

EXPORTS.

Articles.	Kobe.	Osaka.
Brushes	$267,808	....
Camphor	1,502,200	....
Copper	5,615,685	$1,306,741
Cotton, and manufactures of:		
Shirtings, etc	119,369	857,163
Towels	315,823	207,309
Underwear	398,131	125,428
Yarn	4,872,018	2,610,400
Fans	280,001	....
Fish, cuttle	237,380	....
Matches	$1,747,103	....
Matting	1,531,280	....
Mushrooms	133,616	....
Oil, fish	131,058	$69,327
Porcelain, etc	1,284,439	259,427
Sake	186,075	324,418
Silk, waste, etc	242,418	288,540
Straw braid, etc	998,728	....
Tea	313,844	80,421
Wax, vegetable	215,857	....

TRADE WITH THE UNITED STATES.

The imports into Kobe from the United States during the first six months of 1907 show a gain of $2,346,594 over the corresponding period of 1906. The articles are shown in the following comparative statement:

Articles.	1906.	1907.
Bones, animal	$11,235	$25,797
Cotton, raw	5,223,303	8,493,197
Flour, wheat	715,701	497,812
Iron and steel manufactures:		
Machinery, etc., electric	78,194	170,357
Material for bridges, etc	916	42,182
Locomotives, etc	22,945	184,637
Pipes and tubes	53,465	68,968
Plate and sheet	67,004	33,006
Sewing machines	24,054	63,814
Steam engines, etc	170,179	104,017
Lead	116,622	84,006
Leather, sole	$76,989	$96,257
Oil:		
Kerosene	763,086	586,337
Linseed	13,093	26,838
Lubricating, etc	137,781	64,168
Milk, condensed	111,258	128,093
Resin	54,679	103,997
Soda, nitrate of	8,107	55,776
Tallow	4,368	26,920
Timber and lumber	23,258	73,183
Tobacco, leaf	127,247	42,967
Wax, paraffin	138,109	145,386
Other articles	2,006,181	1,228,153
Total	9,947,774	12,294,368

The exports from Kobe to the United States during the six months ended June 30, 1907, amounted to $5,161,021, an increase of $755,464 over the first six months of 1906. The leading articles were: Matting, valued at $1,458,459; porcelain and earthenware, $881,126; camphor, $612,861; copper, $499,251; tea, $290,148; brushes, $195,582; peanuts, $150,963; rice, $132,257; and straw and chip braid, $137,913.

The total imports into the smaller ports of the Kobe district for the first six months of 1906 were valued at $2,444,243, and for the first six months of 1907 at $4,169,908. The total exports from the subports for the same periods amounted to $447,901 and $1,611,884, respectively. This makes the total imports into the entire Kobe consular district for the first six months of 1906 as amounting to $62,963,101, and for the same period of 1907, $74,612,967, a gain of $11,649,866.

PORT OF TSUGURA.

DEVELOPMENT AND GROWING TRADE IMPORTANCE.

The port of Tsugura, on the west coast of Japan, which was opened in 1896, and which was of little trade importance, save in the imports of American petroleum, until the close of the Russo-Japanese war, has now, according to a Japanese newspaper article, transmitted by

Vice-Consul Walter Gasset, of Kobe, become a promising open port; its trade during the eight months ended August 31, 1907, amounting to $582,679. The imports were $333,993, the major part of which was American petroleum; exports, $242,686, nearly all being goods shipped to Vladivostok, with which there is a triweekly steamship service. The Japanese Government is making investigations for the improvement of the harbor, and if the present rate of increase in its trade is maintained Tsugura will rapidly develop into one of the most important open ports of Japan.

AID FOR EXPORTS.

TAXES AND DUTIES REFUNDED ON CERTAIN ARTICLES.

Consul-General Henry B. Miller, of Yokohama, forwards the following abstract from a Japanese newspaper relating to the reimbursement of taxes on manufactures exported from Japan:

> As a measure for the encouragement of the export of goods the taxes paid on sake, beer, soy, alcohol, and alcoholic beverages, and the customs duty on the raw materials, are reimbursed when such goods are exported, according to the tax reimbursement law. The largest portion of the taxes or customs duty so reimbursed is received in Osaka, which indicates the prosperous state of the manufacturing industry there. The total reimbursement made through the Osaka customs-house for 1906 amounted to $522,900 gold, and the amount reimbursed in 1907, up to the end of August, aggregated $362,000, of which $306,000 was for sake. Many lines of goods made of imported raw materials are exported from Osaka, such as glass and foreign-style umbrellas.

CHINA.

AMERICAN INTERESTS IN MUKDEN.

MERCHANTS CAN NOT GET SAMPLES OF GOODS FOR EXHIBITION.

In reporting on the improving conditions in Manchuria, Consul-General Willard D. Straight furnishes the following information concerning Americans and American houses in Mukden:

Within the last few months two new American houses, as well as an agency for an American sewing machine and another for an American oil company, have been established in Mukden in addition to many other foreign houses. Attempts are being made by the local American merchants to introduce broad-tired iron cart wheels, suited to Manchurian roads, to replace the clumsy and expensive wooden articles now in use. They are also endeavoring to sell furniture for the government offices and to supply the provincial forces with saddles, shoes, and other equipments. At the local agricultural college an American corncutter and other American implements are in use.

The demand for Japanese cotton goods still continues, although there are at present only 500 bales of their shirtings in the Mukden market, against 300 bales of American cottons. The stocks of the former have recently been depleted by the shipment north of 2,000 bales which had for some time been held locally. A Japanese company has recently placed upon the market "tapu," a new style of cotton piece goods, well woven, and heavier than the ordinary American sheeting, but lighter than the American drills. Chinese dimensions have been used, the pieces being 17¾ inches in width and 21 yards in length. Local Chinese say that this cloth [sample of which may be obtained from the Bureau of Manufactures by American cotton manufacturers or their export agents] is the most popular in the market and of a weight and size particularly appreciated by the farming class. It sells for $2 (small coin) per piece. Foreign dealers here, however, seem to feel certain that American cottons will regain their supremacy in the Manchurian market.

SAMPLE GOODS, RAILWAYS, CUSTOMS, AND CROPS.

The merchants in Mukden complain that in attempting to obtain samples of American goods for exhibition purposes they are unable to secure any special concessions from the home firms, who are unwilling to grant more than a liberal discount. The dealers who are anxious to canvass for sales are operating on small capital. It seems unfortunate, therefore, that they should be required to assume all the risks, and that American manufacturers should sacrifice the considerable sales that might be made were they ready to share the expense of putting their goods before the consumer.

The South Manchurian Railway will be able to accommodate first-class passengers on the arrival of the new cars ordered from the United States, until which time second-class cars are the best that can be had. The excellent trains of the Imperial Railways of North China now run to Mukden, traversing the distance between that point and Shanhaikuan in thirteen hours and bringing the Manchurian within thirty-six hours of Peking.

At Dalny the office of the imperial maritime customs has been established, much to the gratification of the foreign merchants of Newchwang. Due to an agreement made in May of this year with the Mukden foreign office, "exemption certificates," taken out at the point of importation for goods paying regular import duty, entitle these goods to exemption from further levies at or within the inland cities opened to foreign trade.

At Liaoyang and Haicheng, in the south, markets are not good, but business at Mukden, Tieling, and Kwanchengtze is increasing. The droughts which threatened agricultural disaster at the commencement of the summer were broken by heavy rains. Since early August there has been sufficient water in the Liao River to permit the passage of bean boats, and cargo which had been held at Tieling, Tungchiangtzu, and other river ports has been moved to the coast. Throughout central Manchuria the crops are estimated at 90 per cent of a full yield, while the prices for grain promise to be higher than last season. In the Sungari Valley and the wheat country around Harbin, however, the harvest will be meager, which should increase the demand for American flour. The mercantile community regards the situation as gradually improving, and foreign and Chinese merchants regard the business prospects with confidence. While they do not anticipate record sales, they are nevertheless hopeful that business will be brisk, feeling that the season should mark the return of normal and natural conditions, auguring consistent development in the future.

MARKET FOR CANDLES.

SMALL AMERICAN TRADE MIGHT BE EXTENDED IN KINDS DESIRED.

Consul Wilbur T. Gracey, at Tsingtau, calls attention to the opportunity for the introduction of candles of American manufacture in China.

The Chinese people are great users of candles, or rather what used to be known in America as "tallow dips." These are an inferior quality of candle which are locally manufactured, with a wick consisting of a straw soaked in some inflammable material, the straw projecting from the lower end of the candle for a distance of two or three inches. The actual candle is not more than four to five inches in length, though larger ones are made for use on sacrificial altars, in large lanterns, etc. The candles are of a peculiar Chinese shape, about five-eighths of an inch at the top, tapering to less than half an inch at the bottom, from which the straw wick projects. The hole in the straw gives an opportunity to stick these on a small wire spike which projects from the center of all Chinese candlesticks, and which holds the candle in an upright position.

If American manufacturers would furnish candles conforming in shape to these Chinese products (which are usually of a bright red color), having them prepared with a small hole in the center, so that they could be used with the ordinary candlestick in use in this country, a large trade might be built up.

Candles of American shape are, however, being sold on the Chinese markets and were imported during the year of 1906 to the value of 668,651 haikwan taels (1 tael equals 83 cents gold), and come principally from Great Britain. During 1905 American candles were imported to the value of 33,865 taels, but this dropped in 1906 again to the usual figure of about 1,000 taels per annum.

EXPORTS TO THE EMPIRE.

COMPARATIVE POSITIONS OF THE VARIOUS SUPPLYING COUNTRIES.

Consul-General Leo A. Bergholz, of Canton, submits the following report on the variation in the percentages of the Chinese trade held by several leading countries participating:

The president of the London Board of Trade having requested certain information regarding the value of exports to China from the United Kingdom, the United States, and Germany for the years 1887 to 1906, a "white paper" was issued showing that the average value of exports to China during the years 1887 to 1891 was $41,927,220 from the United Kingdom, $9,029,880 from the United States, and $6,930,360 from Germany. In the five years of 1892 to 1896 the average of the United States had risen to $9,758,880, as against $34,966,800 from the United Kingdom and $8,223,120 from Germany. In the next five years the exports from America advanced to nearly half that of Great Britain, the figures being, respectively, $20,028,060 and $40,668,480. This phenomenal increase was maintained in the five years ending 1906, notwithstanding the boycott agitation which began in July of 1905 and did not entirely die out in Canton until January of 1907. In the years 1902 to 1906 goods of the value of $40,523,120 were sent from America to China, against $62,222,640 from the United Kingdom.

The average increase of 1902 to 1906 over 1887 to 1891 was in the case of the United States 348.9 per cent, of Germany 141.6 per cent, and in that of Great Britain but 48.4 per cent.

MANCHURIAN PIG BRISTLES.

COST OF PREPARATION AND SELLING PRICES.

In stating that pig bristles have for some years been exported from Manchuria, Consul-General Willard D. Straight, of Mukden, writes:

The bulk of the trade has been passing through Tientsin rather than Newchwang, buyers from the former port each year sending their agents into this region. Foreign firms established in Mukden are now anxious to ship bristles abroad. An American-Chinese trading company has furnished samples and the accompanying information:

Unassorted bristles may be purchased in Mukden for $2.30 (small coin) or about $1.15 gold per catty (1⅓ pounds). The approximate cost of cleaning is $10.40 (small coin) per hundred catties—$8 for labor and $2.40 for food for the workmen. One man will clean from four to five catties daily. Sorted bristles, therefore, may be obtained for about $2.40 (small coin) per catty. Bristles must be purchased uncleaned from the natives. One hundred catties give approximately the following assortment of bristles:

Catties.	Inches in length.	Catties.	Inches in length.	Catties.	Inches in length.	Catties.	Inches in length.
2	6¼	7	5	7	3¾	4	2½
4	6	7	4¾	7	3½	4	2¼
4	5¾	7	4½	6	3¼	4	2
4	5½	7	4¼	6	3		
7	5¼	7	4	6	2¾		

STRAITS SETTLEMENTS.

COMMERCIAL REVIEW OF THE COLONY.

STEADY TRADE DEVELOPMENT—SHARE OF THE UNITED STATES.

Vice-Consul-General G. E. Chamberlin, of Singapore, furnishes the following report covering the foreign trade of the Straits Settlements:

The total imports into the colony during the calendar year 1906 amounted to $184,995,837, an increase of $20,287,340 over the previous year. The imports from the United States in 1906 were valued at $1,502,525, a decrease of $124,846 from 1905. This decrease would not appear if the United States were given credit for flour shipped into the colony via Hongkong, which is estimated as being valued at $300,000. The imports of cotton goods reached, approximately, 5,400,000 pieces, valued at $10,106,893, of which the United Kingdom supplied 4,500,000 pieces, worth $8,400,000, an increase of 13.5 per cent in quantity and 5.5 per cent in value over 1905. The shipments direct from the United States were 7,000 pieces, an increase of over 4,000 pieces compared with 1905.

The imports of manufactured metals into the colony during 1906 amounted to $5,880,000, of which the United Kingdom furnished $3,400,000 worth, the Continent of Europe $1,400,000, and the United States $198,000. There was a large decrease in the imports of nails from the United States, but an increase of over $50,000 in the receipts of American machinery.

The United Kingdom supplied paper and stationery to the value of $305,700, an increase of $3,000 over 1905; the Continent $335,000, a decrease of $4,000; Hongkong and China $545,000, an increase of $20,700, and the United States $17,300, a decrease of about $41,000.

Condensed milk was imported to the amount of 186,500 cases, valued at $862,000, an increase of 39,000 cases and $70,000 in value over 1905. Italy supplied 108,000 cases, France 14,000, Belgium, 32,000, Germany 8,000, the United Kingdom 6,000, and the United States 4,000.

IMPORTS FROM UNITED STATES AND PHILIPPINE ISLANDS.

The following table shows the principal articles of import into the Straits Settlements from the United States during 1906 in comparison with the total:

Articles.	From United States.	Total imports.	Articles.	From United States.	Total imports.
Arms and ammunition	$8,672	$63,319	Medicines	$11,839	$1,075,079
Boots and shoes	2,812	272,003	Oil:		
Carriages, motors, etc	83,558	454,279	Lubricating	292,637	348,787
Drugs and chemicals	1,986	220,883	Petroleum	339,855	1,257,978
Flour, wheat	22,965	1,516,092	Oilmen's stores	41,218	592,239
Fruit	7,538	730,414	Paper, etc	17,300	1,012,946
Iron and steel, manufactures of:			Provisions:		
			Lard	98,514	656,421
Hardware, etc	18,128	986,682	Milk, condensed	16,719	862,052
Machinery	104,532	869,280	Textiles: Cotton goods	15,293	10,106,898
Nails, wire, etc	21,160	196,940	Tobacco, etc	311,100	3,279,317
Tools, etc	16,583	204,128	Vegetables	8,425	610,742
Lamps, etc	12,828	288,422	Woodenware	4,598	150,756

During 1906 the imports into the Straits Settlements from the Philippine Islands amounted to $484,059, and the exports thereto during the same period were valued at $1,032,850. The imports consisted chiefly of the following articles: Shells, valued at $124,781; tobacco, cigars, and cigarettes, $99,645; copra, $72,042; gum, $52,415; gutta-percha, $51,806; and beche-de-mer, $10,036. The leading articles of export to the Philippines were: Cocoa, worth $121,685; coffee, $50,490; gin, $39,868; petroleum, $117,934; opium, $45,650; rice, $90,816; sugar, $33,240; cotton piece goods, $207,844; onions, $27,027; and gambier, $16,421.

THE EXPORT TRADE.

The total exports from the colony during the calendar year 1906 amounted to $164,545,281, an increase of $25,761,322 over the previous year. The exports to the United States during the year were valued at $21,427,398, an increase of $1,925,419 over 1905. The articles showing the largest increases to the United States were: Cloves, $32,000; benzine, $83,000; cubebs, $17,000; gambier, $176,000; gum copal, $148,000; gum dammar, $266,000; gutta-jelotong, $820,000; pineapples, $55,000; rattan, $176,000; and tin, $1,408,000. The articles exported to the United States showing the greatest decreases were: Cassia, $10,000; cutch, $15,000; gutta-percha, $619,000; black pepper, $324,000; rubber, $212,000; and tapioca, $41,000. The exports to the United States are shown in the following statement:

Articles.	Value.	Articles.	Value.
Benzine	$83,866	Oil:	
Coffee	91,400	Cocoanut	$32,087
Cutch	154,649	All other	4,835
Cubebs	29,329	Pepper	1,585,540
Cloves	43,927	Rattan	947,500
Gambier	1,334,584	Rubber	745,718
Gums:		Sago	194,796
Copal	584,448	Skins, deer	25,606
Dammar	273,348	Tapioca	414,852
All other	63,948	Tin	13,539,844
Gutta-jelotong	820,364	All other articles	261,552
Hides	54,856		
Nutmegs	140,349	Total	21,427,398

Trade with the United States and the Philippine Islands is exclusively in the hands of foreigners. During 1906, 59 foreign vessels cleared for ports in the United States—55 under the British flag, 3 under the German, and 1 under the French. During the year 64 vessels cleared for the Philippine Islands, of which 22 were British, 28 German, 13 Spanish, and 1 Norwegian. Not a vessel carrying the American flag cleared from Singapore for a port in the United States or the Philippine Islands during the year, with the exception of a few army transports and naval vessels.

ARTICLES SHIPPED TO VARIOUS COUNTRIES.

In the following table are shown the exports of the principal products from the Straits Settlements, in tons of 2,240 pounds, for the first nine months of 1906 and 1907:

Article.	United States.		England.		Continent of Europe.		Total all countries.	
	1907.	1906.	1907.	1906.	1907.	1906.	1907.	1906.
Cloves	14	118	27	60		1	41	179
Coffee	226	314	6		171	630	403	944
Copra			1,326	101	38,538	29,733	39,864	29,834
Cubebs	6	30					6	30
Gambier	7,415	9,518	4,816	4,790	5,810	7,310	18,041	21,618
Gambier, cube	922	1,189	659	581	1,085	814	2,666	2,584
Gum benjamin	10	15	79	146	178	221	267	382
Gum copal	3,575	3,171	2,155	2,157	2,176	1,487	7,906	6,815
Gum dammar	305	163	114	90	221	104	640	357
Gutta-percha	360	167	1,279	1,090	866	722	2,505	1,979
Gutta jelotong	9,683	6,639	793	824	669	860	11,145	7,823
Hides	340	203	1,759	1,922	220	419	2,319	2,544
Mace	50	25	19	20			69	45
Nutmegs	560	353	92	126	23	8	675	487
Pepper:								
Black	4,742	4,594	1,205	1,407	6,149	4,889	12,096	10,890
White	1,337	1,404	1,761	1,390	1,921	2,567	5,019	5,361
Pineapples (cases)	253,225	83,615	388,344	284,662	44,686	39,000	686,255	407,277
Rattans	4,035	3,797	1,664	1,784	8,322	8,159	14,011	13,740
Rubber:								
Borneo	611	679	212	236	400	711	1,223	1,626
India	1		201	213	38	45	240	258
Para	2	6	413	141	35	16	450	163
Sago:								
Pearl	361	104	951	1,590	1,185	1,795	2,497	3,489
Flour	4,441	3,826	18,962	15,671	10,785	8,768	34,188	28,265
Tapioca:								
Flake	1,283	752	4,420	4,729	1,648	3,788	7,351	9,269
Flour	48	1,537	995	5,229	311	39	1,354	6,805
Pearl	6,859	5,524	5,797	4,431	2,585	1,939	15,241	11,894
Tin	8,822	10,770	26,259	18,166	6,372	5,700	41,453	34,636

CEYLON.

AMERICAN TRADE EXTENSION.

PRODUCTS WHEREIN MANUFACTURERS MAY HOPE TO INCREASE SALES.

Replying to inquiries, Consul E. A. Creevey, of Colombo, furnishes the following information relative to Ceylon as a field for American trade:

American manufacturers and exporters desirous of competing in this market must bear in mind that the United Kingdom has long had a monopoly in this field, and that its trade is largely controlled through a head office in London and its branches here.

The imports into Ceylon from the United States in 1906 amounted to $446,050, and they would have been larger had American exporters studied the market and worked to supply its needs. This, however, does not cover all the American goods consumed here, as many such goods are received from and credited to other countries. I know this has been the case with American typewriters, small hardware, canned foodstuffs, and druggists' supplies exported from the United Kingdom, which were entered here as British products.

The great increase in the demand for cigarettes among the native population accounts for the predominance of the United States in this article. Cans of cheap "straight cut" American cigarettes can be found in all the small bazaars. The imports of tobacco in 1906 increased 4,546 pounds over 1905, but cigars, the most of which come from the United Kingdom, fell off 11,459 pounds from 1905. The imports of American tobacco amounted to $24,330, against $20,300 from the United Kingdom.

In the imports of clocks the United States displaced the United Kingdom in 1906, the value of the imports from both being $4,827 and $3,224, respectively. The value of the clocks was $2.74 each for the American and $2.58 for the British. The increased demand for the American clock is thought to be due to most of them being alarm clocks. There was a general decrease in the imports of watches, American watches dropping from $4,900 to $2,920; British watches fell off $323.

OTHER STRIKING IMPORT COMPARISONS.

The imports of canned beef were twice as large in 1906 as in 1905, the imports from the United States amounting to $2,750, against $1,330 in 1905, while the imports from the United Kingdom amounted to $9,300, against $4,300 in 1905.

The increase in the imports of biscuits from Germany in 1906 was 18 per cent, while the increase in the imports from the United Kingdom was only 11 per cent over 1905. The attractive manner in which German biscuits are put up is the cause of this increased trade.

The imports of iron and steel are drawn from the United Kingdom, Germany, Belgium, and Sweden. In hardware the imports from the United Kingdom were valued at $297,100, in a total import of $350,600. The imports of American hardware amounted to $7,700.

There has probably been no more remarkable change, within a comparatively recent period, than in the manner of lighting the houses and streets of Ceylon. To-day kerosene is used by all, and lamps are found in the smallest huts. This has caused a great decrease in the imports of candles. One-half the lamps imported come from the United Kingdom, followed by the imports from Austria and Germany. English and Austrian lamps are valued at about 65 cents each, German lamps at 27 cents, and Japanese lamps at 15 cents. The kerosene in bulk was imported from Borneo and Asiatic Russia, valued at $239,000; all the case oil, valued at $235,000, was imported from the United States.

The United Kingdom, Italy, and Austria control nearly all the writing-paper trade. The prices of this article, per ream, are as follows: British, $1.25; Italian and Austrian, 76 cents.

Of the toilet soap imported into Ceylon the United Kingdom supplies 84 per cent, but Germany is beginning to successfully compete for this trade. Of the bar-soap imports the United Kingdom and her colonies supply 99 per cent.

The value of the cotton manufactures imported into Ceylon in 1906 was $2,648,194, drawn from the following countries: United Kingdom, $1,690,513; British colonies, $677,123; all other countries, $280,558. The imports from the United States in 1906 consisted of unbleached piece goods, valued at $56,000, an increase over 1905 of $21,000.

As a résumé, it may therefore be said that the imports wherein American exporters may hope to increase trade are cotton piece goods, tobacco and tobacco manufactures, iron and steel, clocks, canned beef, biscuits, hardware, lamps, writing paper, perfumery, toilet soap, etc. It should be borne in mind that Ceylon, with a population of, say, 3,500,000, of whom only about 10,000 are Europeans, offers only a limited market for American products.

PERFUMERY IMPORTS.

GERMANY AND THE UNITED KINGDOM THE SOURCE OF SUPPLY.

Consul Creevey furthermore reports that no perfumery is imported into Ceylon from the United States, while German perfumery is finding an increasing market therein. The imports from the United Kingdom are practically the same in value to-day as they were ten years ago, while the imports from Germany have quadrupled in that time. The increased German imports are due to their cheapness, while the United Kingdom supplies only the costlier perfumery.

So cheap are some of the German scents, which are in great demand in the villages of the interior, that a phial of so-called "Eau de Cologne" is now imported at a value of .25 cents. It is becoming common, in many places, to pour perfume on the shrines in the Buddhist temples, to take the place of the temple flowers and benjamin and sandalwood.

ARABIA.

ADEN'S GROWING TRADE.

GREATLY AUGMENTED SALES OF AMERICAN PIECE GOODS—OIL TRAFFIC.

Consul Wallace C. Bond, of Aden, in his report covering the foreign trade of that important British-Arabian port for the fiscal year ended March 31, 1907, writes as follows:

The total import trade for the year amounted to $17,884,812, an increase over the preceding year of $955,353, a most satisfactory showing in view of the fact that the previous year showed a slight decrease. The total exports were valued at $14,385,451, a decrease of $736,719, as compared with 1906. The principal cause of the decrease in the outgoing trade was due to the rapid rise and increase in commercial importance of Hodeidah and Jibuti, the former a growing port on the Red Sea, some 200 miles from Aden, and the latter directly across the gulf in French Somaliland, about 100 miles away.

One of the most satisfactory features of the trade, from an American point of view, was the unparalleled increase in the imports from the United States, which rose from $1,337,083 in the fiscal year of 1906 to $2,769,452 in 1907, an increase of $1,432,369, or more than 100 per cent. The importation of cotton goods from the United States for the fiscal year 1906 was valued at $1,257,933, while for the fiscal year 1907 they reached the sum of $2,599,984, an increase of $1,342,051. In the fiscal year 1906 British India sold to Aden $937,215 worth of these articles, and in 1907 $1,038,780 worth, while the United Kingdom furnished $230,105 and $283,303 worth, respectively, for the two years. The following statement shows the quantity and value of cotton piece goods imported into Aden from the several countries during the fiscal year ended March 31, 1907:

Country.	Gray.		White.		Colored.	
	Yards.	Value.	Yards.	Value.	Yards.	Value.
United States	42,201,262	$2,586,682	146,400	$18,302	....	....
United Kingdom	696,816	38,750	2,239,141	121,997	1,890,766	$122,556
British India	8,648,416	456,222	2,443,314	134,916	6,516,802	447,642
Austria-Hungary	1,845,200	110,354	7,500	227	86,100	1,265
Other countries	6,308,280	367,366	402,035	26,429	756,046	55,145
Total	59,699,974	3,559,874	5,238,390	296,871	9,199,714	626,608

ADVANCE IN SALES OF AMERICAN OIL.

The second commercial victory which America scored in Aden during the past year was the large increase in the import of kerosene. During the preceding year Sumatra and Russia were formidable competitors of America for the oil trade of this port. Last year Sumatra dropped completely out of competition, the imports falling from 219,924 gallons, valued at $36,448, to nothing at the close of the fiscal year 1907. Russia's showing was, in 1906, 80,112 gallons, worth $12,994, and, in 1907, 80,488 gallons, valued at $13,055. The figures for America were 376,256 gallons, worth $60,596, in 1906, and 997,680 gallons, valued at $151,265, in 1907. Local dealers assert that American kerosene has practically driven both the Russian and Sumatran oil from the Aden markets, the only reason for the importation of Russian oil in the fiscal year 1907 being the impossibility of obtaining enough of the American product to meet the demand. The dealers in American oil state that the demand is continually increasing; that they are unable to import the article as fast as they need it, and that, could their orders be filled, they could double the amount of their sales.

TRADE WITH THE UNITED STATES IN DETAIL.

The imports, by articles, from the United States during the fiscal year ended March 31, 1907, were as follows:

Articles.	Value.	Articles.	Value.
Carriages and parts	$3,604	Provisions	$865
Cotton goods	2,599,987	Rugs and carpets	934
Drugs and medicines	908	Wood, and manufactures of	928
Flour, wheat	4,332	All other articles	5,331
Machinery	1,299		
Oil, kerosene	151,264	Total	2,769,452

The exports to the United States during the fiscal year 1907 amounted to $2,765,210, consisting of the following principal articles: Skins worth $2,288,183; coffee, $399,565; ivory, $62,111; civet, $7,434; wax, $1,262; chillies, $3,262, and gum myrrh, $1,158. The increase over the fiscal year 1906 in the exports of skins was $750,314 and of coffee $30,707.

BRITISH INDIA.

GRATIFYING BUSINESS REVIEW.

IMPORTANCE OF CALCUTTA AS A RECEIVING AND DISTRIBUTING POINT.

Consul-General William H. Michael, of Calcutta, furnishes the following statistics covering the foreign trade of India:

The imports and exports of merchandise of British India, by sea, government stores not included, during the six months ended September 30, 1907, were as follows:

Provinces.	Imports.	Exports.	Provinces.	Imports.	Exports.
Bengal	$87,244,837	$119,892,313	Madras	$16,315,095	$35,440,668
Eastern Bengal and Assam	813,109	3,670,477	Burma	16,334,875	26,458,538
Bombay	65,079,912	94,721,721			
Sind	14,062,378	39,325,981	Total	199,850,206	319,509,698

In the foregoing exports, foreign merchandise reexported amounted to $6,437,109, leaving the imports entered for consumption $193,413,097, and the exports of Indian products $313,072,589.

The imports of government stores during the six months were valued at $10,483,505. The imports of treasure during the six months under consideration were as follows: Government treasure, $28,077,535; private treasure, $65,429,204, of which $46,763,109 were imported into Bombay and $15,568,145 into Bengal. The foregoing statistics show the importance of Calcutta as a receiving and distributing point, for Calcutta means, to all intents and purposes, Bengal, and this importance is growing year by year.

Attention is called to the large and growing foreign trade of Rangoon, Burma, where the United States is represented by a consular agent. The imports of merchandise at that port during the six months ended September 30, 1907, amounted to $16,000,000, and the exports of merchandise during the same months to $21,405,000, an increase over the trade of the six months of 1906 of $1,179,330 in imports, and $2,244,000 in exports.

CALCUTTA'S HIDE EXPORTS.

LARGE INCREASE IN SHIPMENTS DURING PAST FIVE YEARS.

That there has been a large increase in the exports of hides from India is shown by Consul-General Michael in the following figures, which cover the shipments of the past five years from Calcutta:

Year.	Cowhides.	Buffalo hides.	Goatskins.	Total.
1902-3	6,826,158	828,791	13,113,752	20,768,701
1903-4	6,778,661	731,921	13,603,896	21,113,978
1904-5	6,934,366	923,451	16,101,978	23,959,795
1905-6	8,900,897	1,179,140	20,185,864	30,265,401
1906-7	10,234,264	1,625,259	13,971,122	25,831,345

The unusual increase in 1905–6 was due to the activity in goatskins, which, however, have dropped to a normal level. If the impending famine should prove as destructive as is anticipated there will be a large increase in the export of hides and skins.

Germany is the largest purchaser of raw hides, while the United States takes three-fourths of all raw skins. The tanned hides exported in 1906–7 amounted to 219,855 hundredweight, which was an increase of 8.85 per cent in quantity over 1905–6. The increase in exports of tanned skins of various grades in 1906–7 over the previous year was 8.33 per cent in quantity. The average price per hundredweight was a trifle over $60.

TUNIS.

INDUSTRIAL DEVELOPMENT.

OPPORTUNITIES PRESENTED TO AMERICAN MANUFACTURERS.

Writing from Marseille, Consul-General R. P. Skinner says that two years ago, in the course of a report in regard to Tunisian matters, Consular Agent Auguste J. Proux, of Tunis, spoke of the importance of contemplated public works, and suggested that American manufacturers and contractors would do well to secure duly qualified local agents " to hold a watching brief on their behalf." Mr. Skinner now adds:

Recent events confirm the wisdom of this suggestion, as in spite of the very considerable undertakings now under way in Tunis it does not appear that American firms are having any part. Thus, for example, while it was originally expected and reported that orders for railroad work would be reserved to French houses, it was decided later on to apply to foreign manufacturers for certain requirements. German concerns have very recently obtained orders for locomotives at higher prices than those proposed by Austrian manufacturers for the reason that prompt delivery was assured. Two German companies operating jointly in this transaction have contracted to supply 28 locomotives for about $19,300 each. Four are to be delivered in one year, after which six are to be delivered monthly. I deeply regret to say that America was not even considered as a possible furnisher, because of alleged defects in a former delivery which required a year to correct. It is a great pity that this unfavorable opinion prevails in regard to American locomotives, especially at this time, an opinion which might be counteracted perhaps by conference between representatives of American companies and the general director of public works, who has these matters in hand.

CONTRACTS AVAILABLE.

I wish to confirm my previous reports in regard to the industrial evolution of Tunis. Ten years of active business at least may be anticipated, during which works of importance will be established. The government itself is spending $15,000,000 on railroads, waterworks, and highroads. Foreign contractors, operating directly in their own names, will not be permitted to participate in public work, but it would be entirely practicable to form a French company, or, better still, a Tunisian stock company with head office in Tunis, and through such instrumentality overcome this objection to foreigners. To be admitted to bid, contractors are required to address themselves to the director of public works (directeur des travaux publics), who makes inquiry into the standing of the possible bidder and passes upon his eligibility from a financial and technical point of view. Only contractors upon this eligible list are permitted to bid upon public works. Among the works to be built within the near future may be mentioned the railroad from Sousa to Sfax, a distance of about 100 miles.

ST. HELENA.

COMMERCE AND INDUSTRIAL CONDITIONS ON THE ISLAND.

Consul R. P. Pooley, of Jamestown, reporting on the trade and industries of St. Helena for the first six months of 1907, says:

The imports amounted to $71,230; exports, $7,190. The imports, which are from the United Kingdom and South Africa only, include many articles of American origin, such as provisions, kerosene, lumber, tobacco, canned goods, etc. In the currency, mail service, customs tariff, and quarantine regulations there has been no change affecting American marine or commerce at this port, except as to the supply of water to shipping, which is now charged by the Government at 49 cents instead of $1.22 per tun of 252 imperial gallons.

With regard to local industries, the Government expert on New Zealand flax (Phormium tenax) has returned from London with a portion of the machinery and materials for the manipulation of the leaves into fiber. The manufacture of pillow lace is another new industry, and a lady expert in lace designs, spinning, and weaving has arrived from London as teacher and superintendent.

During the six-months period there arrived at Jamestown 28 different kinds of vessels, of which 20 were British, 4 Norwegian, 2 American, 1 French, and 1 Swedish, with an aggregate of 83,226 tons. The present stock of fuel in the contractor's sheds amounts to 1,957 tons of coal and 593 tons of patent fuel.

The total customs revenue for the first half year of 1907 amounted to $7,050, a decrease of $5,630 from the corresponding period of 1906.

Owing to existing depressed fiscal conditions in the island, and the number of unemployed, 100 men recently left for South Africa, under a four years' engagement at 74 cents per day, to work in the copper mines.

ITALY.

COMMERCIAL TRANSACTIONS.

STEADY INCREASE IN IMPORTS, WHILE EXPORTS DECLINE.

Consul James E. Dunning reports that the Milan custom-house supplies the following statement of Italian exports and imports for the first six months of 1907, compared with 1906:

Articles.	Imports.		Exports.	
	First six months, 1907.	First six months, 1906.	First six months, 1907.	First six months, 1906.
Spirits, drinks, and oils	$4,645,297	$4,121,898	$12,712,984	$13,489,429
Tobacco, drugs, and spices	5,185,165	5,329,372	673,825	593,738
Chemicals, medicines, etc	11,605,183	10,646,295	6,455,707	7,060,274
Dyes and tans	3,667,243	3,453,215	670,469	850,080
Hemp, flax, jute, etc	5,491,445	5,283,226	6,778,408	6,841,678
Cotton and cotton goods	40,184,134	32,579,408	12,278,277	11,606,812
Wool, horsehair, and fur	14,409,305	12,347,973	2,888,564	2,918,270
Silk and silk goods	18,118,360	17,329,083	57,623,550	67,922,890
Wood and straw	12,019,376	10,769,275	5,517,129	4,065,029
Paper and books	4,327,452	3,510,639	2,347,907	1,974,877
Hides and skins	9,587,005	8,880,935	2,841,066	4,200,583
Minerals, metals, etc	60,790,881	40,681,415	5,842,099	7,526,765
Vehicles	7,760,282	3,180,098	2,134,519	1,027,146
Stoneware, glass, etc	30,194,810	29,097,769	8,176,697	8,566,249
Rubber and gutta-percha	2,961,519	2,768,440	652,469	850,512
Cereals	30,942,444	34,431,251	21,631,686	19,135,340
Animals and their products	13,763,307	11,905,044	17,269,541	16,804,119
Precious metals and coins	7,196,256	7,476,627	543,121	746,548
All other goods	3,444,297	2,421,170	5,379,607	4,016,009
Total	286,293,661	246,163,128	172,417,622	180,194,848

Imports into Italy and exports from Italy for the first six months of 1907 are reported as follows for six of the most important countries:

Country.	Imports.	Exports.	Country.	Imports.	Exports.
United States	$44,748,807	$23,010,318	France	$25,218,134	$18,726,211
Germany	50,276,693	23,167,334	Switzerland	6,253,200	27,990,878
Austria	23,036,673	13,412,728	Great Britain	48,228,577	15,142,978

It is to be regretted that the figures for Argentina are not available to be compared with those for other of Italy's most important customers. As this consulate has already pointed out in several reports, Argentina is an extraordinarily heavy buyer of Italy's manufactured articles, notably cotton textiles and of her food products, notably wines and bitters. During the first six months of 1907, in fact, Argentina's wine purchases from Italy led those of all other countries. There is a constantly increasing flow of raw material from South America into Italy, to offset and nearly balance the manufactured goods sent out to that market.

Of the $23,010,318 worth of exports out of Italy to the United States for this six-months period, a little less than one-half of the total, or $10,417,142, was the value of the declared exports invoiced through the Milan consulate. Analyzed in weights and values, Italy's imports from the United States for the first half of 1907 are reported to this consulate from official sources, thus:

Articles.	Tons.	Value.	Articles.	Tons.	Value.
Cotton-seed oil	2,636	$305,153	Automobiles	20	$15,440
Mineral oils	36,811	1,461,203	Mineral phosphates	28,945	279,271
Tobacco	2,872	681,869	Stone and earthen ware, etc	3,849	162,120
Sulphate of copper	1,057	132,591	Coal	4,724	25,476
Solid paraffin	5,526	661,025	Rubber and gutta-percha	23	88,394
Chemicals, medicines, etc	8,424	374,227	Cereals	142,172	5,425,809
Raw cotton	102,001	26,379,433	Salted meats and lard	2,534	735,187
Lumber	67,300	1,206,443	Fish	2,399	393,141
Shooks and staves	6,903	277,148	Pork fat	879	228,898
Hides and leather	202	178,718	Other fats	2,902	380,789
Raw copper, brass, and bronze	5,665	2,405,359	Sundries	40	55,970
Raw lead	783	68,129	All other goods		890,888
Machines and parts	7,404	1,420,673			
Scientific instruments	166	515,503	Total	436,237	44,748,807

Exports from Italy to the United States for the half year of 1907 are reported to the consulate thus:

Articles.	Tons.	Value.	Articles.	Tons.	Value.
Wines	4,988	$585,768	Kid gloves and hosiery[a]		$47,671
Olive oil	6,452	1,273,800	Tanned hides and leather goods	3	10,422
Vegetable extracts	207	614,705	Machines and parts	37	7,334
Calcium citrate	1,682	422,091	Automobiles	50	134,328
Raw tartar	3,022	524,960	Marble, raw and worked	35,565	567,034
Chemicals, medicines, resin, perfume, etc	16,468	399,896	Sulphur	600	10,229
Sumac	3,701	139,153	Macaroni and flour	20,907	1,571,020
Hemp, raw and carded	798	168,296	Oranges and lemons	65,775	1,153,754
Manufactures of hemp, linen, and jute	909	280,429	Dried fruits	2,403	476,324
Cotton textiles	112	205,352	Preserves	2,169	465,516
Wool and wool waste	49	33,775	Tomatoes in cans	3,421	264,217
Horsehair	114	114,535	Cheese	2,352	896,871
Raw silk and silk waste	1,151	9,152,639	Hats, unfinished	12	136,837
Silk ribbon and textiles	35	428,267	Hats[b]		600,230
Other silk goods	5	52,689	Coral, raw and worked	3	133,363
Furniture and wooden ware	859	165,594	Sundries	22	22,774
Straw braid	285	187,017	Art objects		167,331
Paper and books	305	175,437	All other goods		1,302,750
Raw hides	488	167,910	Total	174,949	23,010,318

[a] 94,800 pairs.

[b] 1,837,700 hats in number.

It will be noticed by readers of the last quarterly report issued by the consulate (Monthly Consular and Trade Reports for December) that the half-yearly statement carries out the expectation that last year would see in Italy an increased importation of foreign raw material and a falling off in exports.

IMPORTS OF CEREALS DECLINE WHILE PETROLEUM ADVANCES.

Consul Dunning also writes as follows in regard to Italian imports of cereals and petroleum:

Figures furnished the consulate by the Milan Chamber of Commerce indicate there is a steady diminution in the imports of cereals into Italy. The total importation from July 1 to October 10, 1907, was 131,473 tons, a falling off in a remarkable degree from the imports of the similar period in the year before. Corn imports are also diminishing rapidly in volume, the receipts from July 1 to

October 10, 1907, having been only 19,802 tons, against 76,115 tons in the same period of 1906. Among other causes contributing to this condition (omitting temporary reasons) is the increase throughout Italy in the consumption of other food products, notably meats and fish.

The importation into Italy of petroleum from April 1, 1907, to September 30, 1907 (that is, from the day on which went into effect the reduction in the import duty from $9.26 per quintal of 220.46 pounds to $4.63 per quintal), amounted to 73,449,200 pounds. For the similar period of 1906 the amount imported under the higher duty was only 47,771,680 pounds. There was a total loss in duty from this source of about $400,000. It is believed that the rapid increase in the use of petroleum under the lower price now available, will in another year restore the amount of duty collected to its original level.

RUSSIA.

COMMERCIAL PROGRESS.

A STEADY GROWTH OF TRADE—TOTAL CONSUMPTION AND PRODUCTION.

Vice-Consul-General John Mueller, of St. Petersburg, furnishes the following report on the foreign trade of Russia:

The total value of merchandise imported into Russia during 1906 amounted to $319,370,645 and the exports therefrom during the same period were valued at $514,684,305. In 1905 the imports were valued at $288,047,225 and the exports at $514,205,625. The following comparative statement shows the foreign trade by groups:

Group.	Imports.		Exports.	
	1905.	1906.	1905.	1906.
Alimentary products	$47,786,850	$58,910,805	$352,791,480	$307,667,695
Animals	543,325	472,255	8,099,405	14,061,045
Raw and half-worked material	158,157,530	178,781,600	150,504,115	176,925,160
Manufactures	81,559,520	91,205,985	2,810,625	16,030,405
Total	288,047,225	319,370,645	514,205,625	514,684,305

In the group of alimentary products an increase in the imports of rye, maize, barley, rice, fruit, nuts, coffee, cacao, wine spirits, and fish was noted, while a decrease was shown in the imports of tea, mineral waters, and preserved goods. In raw and half-worked material an increase was shown in the receipts of fertilizers, dressed leather, coal, coke, chemical products, dyes, tannin, and wool, while salted skins, timber, iron, steel, lead, copper, cotton, and zinc showed a decrease. An increase was shown in the imports of manufactures of iron and steel, tin, wire, cosmetics, leather and rubber goods, agricultural implements, haberdashery, books, and cotton goods, whereas a decrease was noted in arms, motors, engines, and flax and hemp articles.

FOODSTUFFS AND MANUFACTURED EXPORTS—TRADE BY COUNTRY.

In the group of alimentary products an increase was shown in the exports of wheat, beans, Indian corn, rye flour, barley, and millet meal, while a decrease was noted in oats, buckwheat, grits, beets, onions, fish, and sugar. Of the exports of raw and half-manufactured goods increases were shown in timber, seeds, hides, wool, cement, iron ore, iron, copper, naphtha oil, and platinum, while a decrease was shown in hair, cotton yarn, flax, and feathers. In manufactured goods, increases were noted in the exports of gold and silver articles, while rubber and cotton goods showed decreases.

The trade, by countries, during 1906 is shown in the subjoined table:

Countries.	Imports.	Exports.	Countries.	Imports.	Exports.
United States	$24,020,715	$2,951,465	Roumania	....	$8,550,970
Germany	136,551,185	146,344,975	Turkey	$3,439,685	7,382,435
United Kingdom	54,013,200	116,081,815	Sweden	3,337,200	4,938,850
Netherlands	6,726,930	55,574,680	Spain	....	4,139,055
France	14,533,300	37,994,125	Norway	3,136,865	3,268,705
Italy	5,333,855	26,599,235	All other countries	53,648,156	40,344,960
Austria-Hungary	10,792,340	23,392,330			
Belgium	8,837,265	21,276,195	.Total	319,370,645	514,684,305
Denmark	....	15,844,490			

The exports of cereals in 1906 were divided as follows: Wheat, valued at $105,900,995; barley, $51,755,955; oats, $26,473,575; rye, $25,182,470; maize, $4,733,365; and buckwheat, $557,230.

GERMANY.

TRADE WITH BRITISH EAST INDIES.

LARGE INCREASES SHOWN IN BOTH IMPORTS AND EXPORTS.

Concerning Germany's commercial relations with the British East Indies, Consul-General Richard Guenther, of Frankfort, furnishes the following statistics:

During the year 1906 the trade of Germany with the British East Indies was as follows: Imports, $76,686,600, an increase of $10,567,200 as compared with 1905; exports, $24,252,200, an increase of $3,784,200 as compared with 1905. German imports from the British East Indies are composed almost entirely of raw materials, of which the following were the leading articles in 1906: Jute, $16,065,000; cotton, $14,399,000; cattle hides, $8,187,200; hulled rice, $7,282,800; rape seed, $3,141,600; shellac and rubber lacquer, $2,927,400; linseed, $2,641,800; sheep and goat skins, $2,451,400.

Among the German products exported to the British East Indies in 1906 were the following: Cotton goods, $2,737,000; sugar, $2,475,200; brass bars, plates, ware, etc., $1,237,600; aniline and other tar colors, $1,237,600; woolen textiles and clothing, $1,023,400; alizarine, $761,600.

ADVERTISING MATTER.

METHODS NECESSARY FOR SUCCESS—BUSINESS DIRECTORY.

Consul Robert J. Thompson, of Hanover, in a report on the receipt from manufacturers and merchants in the United States of circulars and catalogues printed in English, says an American merchant might as well circulate this class of literature among his home customers in the German language as to send it to Germany in the English language. In regard to furnishing names of business houses in Germany the consul recommends the purchase of the German Directory of Industry, Trade, and Commerce (Deutsches Reichs-Addressbuch für Industrie, Gewerbe und Handel) for 1908, just issued at Berlin, in two volumes, and containing about 2,000,000 names.

SWITZERLAND.

ZURICH OFFERS EXCELLENT MARKET FOR AMERICAN PRODUCTIONS.

Zurich, according to Consul A. Lieberknecht, being the largest commercial city in Switzerland, imports many articles of foreign manufacture, which leads him to give some trade pointers:

Naturally many American products have also found their way to this city, but not so much as might be the case if the distance were not so great and so much time lost from the time of giving the order until the goods reach here. But the real reason why more American goods do not find their way into this market is that our people do not pursue the same persistent course as the neighboring countries do. Germany, France, and Austria, as well as other countries, have their agents visiting this country with samples. A personal visit will accomplish more than letters, circulars, or catalogues.

Most of the business men here are up-to-date, and are just as willing to buy from Americans as elsewhere if they see equal or better chances. Some are even anxious to do business in American goods, and it is frequently the case that they call at this consulate for addresses of American manufacturing and exporting firms in certain lines of goods. Business in American goods could certainly be improved if samples and goods in stock could be shown here. Among the American articles found in the market here are hardware and tools, agricultural implements, machinery, dental instruments, office furniture, typewriters, fountain pens, cash registers, leather and leather goods, shoes and supplies, bicycles and supplies, automobiles, canned goods, oils and fats, rubber goods, pianos and organs, garden tools, lumber, etc. [A directory of business houses of Zurich accompanies the consul's report. Individual lists of firms therefrom may be secured from the Bureau of Manufactures.]

SPAIN.

POSSIBLE MARKET FOR SPANISH SHOES IN BRITISH INDIA.

Consul-General B. H. Ridgely, writing from Barcelona, says of the export efforts of Spanish shoe manufacturers:

Some prominence is being given in the local press to a report from the Spanish consul at Bombay calling the attention of Spanish shoe manufacturers to the possibilities offered by British India as a market for Spanish-made shoes. This coincides with private information I have recently secured to the effect that some manufacturers in this district have already taken steps to place their goods in that country and are shipping to Calcutta.

It is now some time since shoe manufacturers in Spain, realizing the impossibility of retaining their hold on the Cuban and Porto Rican markets, have been steadily feeling their way in the markets of the East, and their efforts appear to be meeting with some measure of success. It should be remembered in this connection that Spanish shoes are largely made from imported leather and in some instances with American machinery.

NORWAY.

IMPORTS AND EXPORTS FOR NINE MONTHS SHOW INCREASES.

Consul Felix S. S. Johnson, of Bergen, reports that for the nine months from January to September, 1907, inclusive, the value of imports into Norway was 268,700,000 kroner (1 krone=26.8 cents), showing an increase of 249,575 kroner over the corresponding period for the previous year. The exports for the same period were valued at 170,046,000 kroner, with an increase of 163,586 kroner over the same months of the preceding year. In the statement of imports, under engines and motors, there is an increase of almost 5,000,000 kroner; the other increases are divided evenly among the different articles. With exports the largest increase is in wood pulp, which amounted to 13,183 tons in place of 8,930, whereas the export of ice has decreased about 1,000,000 kroner.

PERU.

POSSIBILITIES AS A MARKET.

AMERICAN PRODUCTS DOMINATE—CHANCES FOR TRADE EXTENSION.

Consul Charles C. Eberhardt furnishes the following information covering the articles of import most commonly used in the Iquitos district of Peru, and the products wherein American trade can still be further enlarged:

There are a few articles in which the United States, if not having a complete monopoly, is so far in advance of other countries that there can hardly be said to be any competition, such as, for example, sewing machines, common soap, Florida water, lard, certain canned meats, machetes, and cheap rifles. It is remarkable the extent to which these articles are used here and the out-of-the-way places to which they have forced their way, for there are very few huts of even the poorer class of rubber workers where some, if not all, of these articles may not be found, as I have discovered by my visits to many of them, during trips along various rivers of this district.

I have always been received with simple but genuine courtesy by these people, whose garments have usually been made on an American sewing machine; an American machete was largely instrumental in forming the clearing in which the house was located, the home itself, seemingly, perfumed for the occasion with American Florida water, and such meats as were served at the table having been imported from the United States, unless some animal killed in the neighboring forests with an American rifle supplied fresh meat. Even American beer is to be had at some of the houses, although such a luxury is not common, cheap French wines usually being used, if any departure is made from the common water, staple coffee, or the ever-present "cachassa," a native alcohol.

Our exporters of these articles are to be congratulated on the firm hold their goods have obtained in this district, a hold, which, when once established, is hard to break. For example, American soap of the common grade for household purposes is used almost exclusively. Time and again attempts have been made to introduce other brands, but without success. The people have tested the brand, it gives satisfaction, they want no other, and as long as American manufacturers keep the article up to its present standard and price, there seems little likelihood of any other make of soap being able to compete successfully with it. It is to be hoped that other American houses, wishing to extend sales of their goods into this district, may use the same effective and successful methods as the importers of the articles mentioned, though it is to be remembered that the same persistence with which the native clings to the demonstrated serviceable soap of American make will be met in regard to German or English articles unless an article just as good or better, at competing prices, can be made to supplant them.

HOUSES AND THEIR FURNISHINGS.

The styles of houses in this district run from the primitive hut of the poor native to the home and business house of the rich merchant, and exceptional opportunity exists for the introduction of some of the materials of which these buildings are made. Corrugated-iron roofing, or some roofing with less heat-attracting qualities, which will last as long and can be sold at competing prices, and cement, which enters so largely into the construction of the floors and sides, cover quite effectively all the materials which are used in the construction of the houses, in the supply of which we might hope to compete, although certain grades and kinds of American lumber are used in some of the better buildings, and there should continue to be a limited market for such goods for years to come. Glass is rarely used, though the demand is increasing, but knowing the reputation of the American shipper for poor packing, I should hesitate to recommend that he attempt to supply any part of this small demand.

The homes of the poorer classes, which are by far the most numerous, are of course very scantily furnished, and about the only articles used in such homes which our exporters could hope to supply are candles, hammocks, and possibly cheap iron bedsteads. These furnishings are now being supplied mostly by Germany and England, though the United States furnishes most of the lanterns and oil which are not infrequently used; also cheap chairs, when such luxuries are indulged in, to replace the crude, home-made benches. The table service is of the cheap grades of cutlery and glazed porcelain dishes, and a good business might be worked up in these articles.

LAMPS, CHAIRS, AND MUSICAL GOODS.

In Iquitos most of the homes of the better class are lighted by electricity, though lamps are also very commonly used throughout the district, and firms exporting lamps should find this a desirable field. Chairs of both medium and good grades, without upholstering of any kind, should find a ready sale if they can be placed in Iquitos at prices to compete with the German and French makes (usually of bent, black wood) now generally used. The same is true of settees, tables, etc.

There is no demand for carpets, and while pianos are used in most of the best homes I should not consider the market for these a particularly good one. There is a good demand for phonographs, nearly all of which come from the United States. Anything which tends to relieve the monotony of their secluded life in the forests is welcomed by the inhabitants, and very few homes of either the rich or the poor are to be found without accordeons and concertinas. The Germans have a practical monopoly of the latter trade, giving particular attention, in the making of the instruments, to the manner in which the joints are made, with some preparation specially calculated to withstand the humidity of the damp tropical climate.

CLOTHING AND FOOTWEAR.

As Iquitos is situated in the heart of the Tropics, there is little demand for any but the very lightest clothing, and that worn by the common people is almost entirely made up by the women from goods imported from Germany, England, and France, the two former countries furnishing the bulk of the coarser and cheaper grades and the latter the finer goods. So far as I can learn, the only American cottons imported are coarse drills, which are becoming popular because of their lasting qualities, even though higher priced than those of other countries.

While many of the poorer class still go bareheaded and barefooted, there is nevertheless a large and growing demand for hats and shoes. The cheap straw hat, sailor fashion, which can be sold here at retail for from $1 to $2 gold, is the popular grade. American shoes are being slowly introduced, but the people here, in common with most Spanish-Americans, seem to prefer the lighter-weight, pointed, French styles to the heavier American article. Several of our export shoe houses are awakening to the demands of Spanish America in this line of goods, and are finding a good market at other ports. There seems no reason why they should not repeat their successes here in Iquitos if they employ similar methods and furnish what the people want.

Except for the cheaper grades there is very little ready-made clothing of any kind on the local market, the finer garments for women nearly all coming from France, while the men have their suits made by local tailors from imported goods. American ready-made men's clothing might do well here, but the styles would have to be changed. It seems that a strong grade of overalls and trousers such as are commonly used in the mills and factories in the United States, though of lighter weight, should sell well here; something that can be sold on the local market at from $3.50 to $5 gold. One local firm is meeting with some success in introducing American-made men's underwear, socks, shirts, suspenders, etc., though, as a general rule, the Peruvian prefers the French makes and styles, which have been so long the standard among the well dressed here.

FOODSTUFFS AND LIQUORS—PATENT MEDICINES.

It is safe to say that any concern in the United States which prepares any article for table use for shipment can find a market therefor in Iquitos if it is in the least degree palatable and the price reasonable. The fresh-food supply of Iquitos is always far below the demand, and as a consequence any good, palatable, prepared food that will endure transportation will be used. The local fresh-meat supply is very limited; as is also the vegetable supply, lettuce, radishes, and onions being about the only vegetables one ever sees, and these are usually grown by Chinamen, while the rubber gatherers rarely attempt to grow anything but yucca, bananas, peppers, and possibly a little corn.

Potatoes, onions, rice, and beans form a large part of the cargo of every one of the monthly steamers from Europe, and if the steamer is delayed, or for any other reason the supply of these products becomes scarce, prices are immediately raised—often doubled within a week—to remain so till the arrival of a fresh supply. The prepared foods of every country which exports such articles are to be found in Iquitos, and it is not uncommon to see on the shelves of one store, for example, canned milk from Switzerland, canned butter from Norway, olives, sardines, and fish of different kinds from Italy, Spain, and Portugal, preserves from France, meats and vegetables from Germany, tripe and onions from England, and canned beef, oysters, tomatoes, etc., from the United States. The exports of the products of our immense packing interests easily place the United States at the head of the list in the amount of canned goods imported annually into Iquitos. Preserved fruits are continually in demand, and yet one sees no American brands.

In a country of tropical heat there is always an immense amount of liquor of all kinds consumed, and American wines and other liquors could no doubt find a ready market here. Ginger ale is consumed in enormous quantities.

Patent medicines and remedies for malaria, liver trouble, and tropical fevers of all kinds are imported in great quantities, and the United States is well represented in the list, but if the manufacturers of other such remedies have overlooked Iquitos they might do well to send samples to the local drug stores or, better perhaps, to any or all the doctors whose names are forwarded.

[These names, together with the names of the leading business men of Iquitos, are on file in the Bureau of Manufactures.]

CHILE.

PROSPEROUS BUSINESS CONDITIONS.

FAVORABLE BANKING EXHIBIT—INCREASED CUSTOMS RECEIPTS.

Consul Alfred A. Winslow, of Valparaiso, reports that the outlook for prosperous business conditions for Chile for the present year is excellent, and furnishes the following particulars in a recent letter:

Laborers in this country are all employed at good wages, and the crops promise well, with prices for farm products very high. The last bank statement for all the banks of Chile, which has just been published, makes an excellent showing as compared with the previous six months' exhibit. The statement in United States currency follows:

Items.	January 1, 1907.	July 1, 1907.
Capital paid in	$51,488,440	$59,106,479
Total resources	272,453,314	308,674,117
Cash deposits	142,178,660	178,295,902
Surplus	8,626,216	11,296,710

This favorable showing is followed by the increased customs receipts for the first nine months of 1907, which show a gain for that time of $3,384,856, the total for the nine months being $25,592,761. About 70 per cent of the increase was on imports and 30 per cent on the export of nitrates and the by-products. The Government has some important public improvements under way, and private interests are making extensive improvements, especially at Valparaiso and in the vicinity.

CURRENCY DEPRECIATION—IMPROVING AMERICAN TRADE.

There is only one cloud on the horizon of any importance, and that is the depreciation of the currency of the country. Shortly after the beginning of 1907, gold was at a premium of only 28 per cent, while on October 1 it was 55 per cent, with very little promise of better conditions, as a new issue of paper money is being put out by the Government to the amount of $30,000,000, with practically no redemption fund to back it.

It is a satisfaction to note that American exporters are taking advantage of the opening for business in this part of the world. This consulate is receiving three times more inquiries from manufacturers and exporters than one year ago, and the information is surely bearing fruit, as the imports into Chile from the United States for the first eleven months of the fiscal year ending June 30, 1907, were $16,553,962 United States currency, against $12,832,879 for the same period of the previous year. This shows an increase of nearly 33 per cent. This should be made 50 per cent for the present fiscal year ending June 30, 1908, and will if the American exporter makes the most of the existing conditions. Now is the time to send good salesmen into the field, for the people are ready to consider the best America has to offer. More American salesmen have done business in Chile in the past six months than ever visited this part of the world before in a year.

BRAZIL.

CONDITIONS TO BE MET BY AMERICAN PIANO MANUFACTURERS.

Pianos intended for the Brazilian market should be manufactured of very dry wood, writes Vice-Consul Samuel J. Flake, of Bahia, as the humidity of the atmosphere is so great it causes the material to expand unless the latter is exceedingly dry when manufactured. This is the chief complaint against cheap pianos of European manufacture imported; they soon become unserviceable or ready for repairs. People buy them, however, because they are cheap, and American manufacturers in order to secure the trade must not only overcome the expansion in the material but keep the prices down to compete with European houses. It can not be expected to build up any extensive business by correspondence, especially when a language foreign to prospective customers is used.

CUBA.

RELIEVING BUSINESS CONDITIONS.

STRENGTHENING THE BANKS—PROVISIONAL GOVERNOR DECREES A LOAN.

Under date of November 21, 1907, the Secretary of State transmitted to the Secretary of Commerce and Labor the following communication concerning the loan of $5,000,000 from the Cuban treasury to the banking institutions of that Republic:

In a dispatch from the American legation at Habana, the chargé d'affaires ad interim reports that on November 11 the provisional governor issued a decree providing that the sum of $5,000,000, or so much thereof as shall be necessary, shall be withdrawn from the national treasury of Cuba and deposited in banks and banking institutions doing business in the Republic of Cuba; not to be called for or drawn upon until July 15, 1908.

These deposits are to be made under the following conditions: A bank or banking institution desiring to secure a deposit of any portion of these funds shall make a written application to the secretary of the treasury, stating the amount desired and the kind of security offered as a guarantee, as well as a statement that the funds or any part thereof, if so deposited, will only be applied in assisting and promoting the industries of Cuba. These applications must be presented before November 30 next. The government reserves the right to reject any or all of these applications. A number of recognized securities dealt in on the Habana Stock Exchange will be accepted as collateral at 10 per cent less than their actual market value on the date when the deposit is made, but no securities will be accepted above par value.

This loan is to be made for the following reasons: First, because a large portion of the tobacco crop of last season has not yet been sold, owing to the unusual length of time required this year for the drying and otherwise preparing the crop for the foreign market. Second, because the condition of the money market in foreign countries makes it impracticable for the banks and financial institutions of Cuba to secure all the money required by the necessities of the agricultural interests in the island at this season of the year.

The bank or financial institution which shall receive a loan shall deliver a certificate of deposit, binding it to use these funds only for the purpose specified, and to return the deposit when called for at any time on or after July 15, 1908. The government reserves the right to withdraw the deposit at any time should the funds be applied to any other purpose, such as, for example, exportation. Six per cent interest must be paid after July 15, 1908, if the deposit is not returned, but the bank has the right to return the deposit at any time without being called upon.

CONTINUATION OF PROSPERITY.

GENERAL EFFECT OF THE LOAN—HARVEST RESULTS.

Consul-General James L. Rodgers, writing from Habana, sends the following account of the present financial and agricultural conditions in Cuba:

The business interests of Habana and, so far as is known, of the island of Cuba generally, heartily approve of and laud the action of the provisional government in the matter of the proposed loan of the

Government funds for the purpose of relieving the business situation at a time when money is needed for the sugar crop and fruit harvest and for tobacco planting—causes which heretofore have always commanded a prolonged credit from the banks. The terms of the proposed loans are considered eminently fair by the business men, and if the banks will take the $5,000,000 offered there should be no trouble. What will be done about it by the bankers is as yet unknown, but it is reasonable to suppose that there will be acquiescence in whole or in part, since the matter is of vital consequence to everybody.

In respect to business conditions, which are so largely dependent upon the sugar crop, there are many conflicting theories. One can hear the prediction that last year's total of 1,441,687 tons—a gain of 211,951 tons over 1905–6—will be greatly reduced, and, again, attention is called to the statement of the Department of Agriculture that the tonnage will be but little, if any, less, and that the price will more than offset any loss. However, the prevailing impression is that the tonnage will be less by perhaps 15 per cent, and that there will certainly be no diminution in price.

Even with such a result there is in evidence a continuation of great prosperity, and business interests generally do not seem to pay much heed to the gloomy prediction of some of the sugar-producing class. The optimism so developed has therefore been encouraged by the provisional government's action, and great pride is taken in the condition of a treasury which makes possible such substantial and timely support of the Republic's industries.

PARTIAL DETAILS OF SUGAR PRODUCTION.

The following are the official statistics as to Cuban sugar production during the year 1906–7 as compared with 1905–6. Only a few of the plantations have estimated their yield.

Province.	Production.		Increase.
	1906–7.	1905–6.	
	Tons.	*Tons.*	*Tons.*
Pinar del Rio	33,651	25,332	8,319
Habana	183,655	164,230	19,425
Matanzas	394,572	343,897	50,675
Santa Clara	520,423	479,638	40,785
Camaguey	52,788	38,145	14,643
Oriente	256,598	178,494	78,104
Total	1,441,687	1,229,736	211,951

No return has yet been made of the acreage, so comparison in that respect to account for the great increase can not be given. It is known, however, that there has been of late much new planting. The province of Santa Clara, which surpasses all others in production, obtained its returns from 56 "centrals" and 14 "ingenios;" Matanzas from 40 centrals and 14 ingenios; Oriente (Santiago de Cuba) from 17 centrals and 11 ingenios; Habana from 15 centrals and 7 ingenios; Camaguey (Puerto Principe) from 3 centrals and 1 ingenio; and Pinar del Rio from 5 centrals and 2 ingenios.

The greatest single production was 48,962 tons, from the Central Chaparra in Oriente Province, and the next, 40,671 tons, from the Central Boston, in the same province. Each of the 45 centrals and ingenios had a production of over 10,000 tons, and the smallest output of any mill was 360 tons. The average production of all centrals and ingenios in the island was 7,792 tons, which indicates the magnitude of the establishments, both as to average and plants, and implies large capital invested and required.

No statements have yet been made as to the volume of the by-products, such as molasses and alcohol, nor has any accurate estimate of the value of the sugar production been given out.

NEW CUSTOMS INVOICE.

DESIGNED LARGELY FOR USE OF AMERICAN EXPORTERS.

Consul-General Rodgers also reports that the officials of the Cuban customs department are preparing an invoice form which is designed to minimize the errors now so apparent in the papers relating to exportations to Cuba. He adds:

These invoice forms, if approved by the Government, will be prescribed for all shipments to Cuba and will be especially indicated for American exporters, since, according to the statement of the Cuban officials in Habana and those of the Cuban treasury, the invoices from the United States are more defective than those from any other country doing business with Cuba. That some improvement in this respect is needed is apparent from the unceasing complaints from the customs officials, who declare that American exporters seem to have the idea that any kind of an invoice will do for Cuba.

JAMAICA.

AMERICAN TRADE OPPORTUNITIES.

PRESENT FAVORABLE CONDITIONS FOR EXPORTERS OF UNITED STATES.

Consul F. Van Dyne, of Kingston, calls the attention of American manufacturers desirous of building up their export trade to the peculiar opportunities open to them in Jamaica. He writes:

This island, which is about the size of the State of Connecticut, lies only 90 miles south of Cuba and less than 1,700 miles from New York, from which port it may be reached by steamships in four days. Its central situation with reference to the other West Indian islands—in the direct track between the United States, the Isthmian Canal, and Europe—makes it a convenient stopping place for vessels and affords special advantages for commerce between those points. Kingston, the capital and principal city of the island, has a land-locked harbor, 7 miles in length and 3 miles wide. There are also good harbors at Port Antonio and Montego Bay.

The United Fruit Company and the Atlantic Fruit Company have each a fleet of steamers constantly plying between the United States and Jamaica. The "Admiral" line of steamships, belonging to the United Fruit Company, has a boat sailing from Boston every Wednesday and one from Philadelphia every Thursday. Returning, steamers leave Kingston and Port Antonio every Tuesday and Wednesday for the United States. While these steamers were intended primarily for carrying fruit, they are also well equipped for passenger service. The Hamburg-American Steamship Company has one steamship sailing from New York every Saturday and from Kingston every Thursday, and on alternate weeks two ships each way. The Royal Mail Steam Packet Company maintains a service of one ship to and from New York every fourteen days. Freight rates are very reasonable.

While the United States supplied 43 per cent, or $4,700,000, of the $11,000,000 imports of Jamaica the last fiscal year, only $2,000,000, or 31 per cent, of the $6,500,000 manufactures imported into the island were furnished by the United States, as against $4,000,000, or 64 per cent, from the United Kingdom. The United States bought $5,500,000 worth, or 57 per cent, of the $9,700,000 that Jamaica had to sell (mostly fruit), and it would seem that with the shorter distance, lower freight rates, and more frequent means of transportation a much larger proportion of the needs of the island should be supplied by the United States. American exporters have only to devote intelligent attention to the matter to bring this about.

ENGLISH LANGUAGE—MERCHANDISE IN DEMAND.

It should be borne in mind that in seeking an entrance into the Jamaican market the American manufacturer does not encounter the obstacles and embarrassments met in other countries, due to difference in language and methods of conducting business. This is an English colony and only the English language is spoken. Mention is made of this fact for the reason that this consulate frequently receives catalogues and advertising matter printed in Spanish.

The principal articles of manufacture for which there is demand in Jamaica are lumber, shingles, cement, boots and shoes, leather, harness and saddles, oils, carriages, and vehicles, furniture, hats, earthen and china ware, clocks, watches and jewelry, medicines and drugs, soaps and perfumery, cotton, woolen, linen, and silk goods, bags and sacks, cordage and twine, electrical apparatus, sewing machines, tools and implements, hardware, cutlery, galvanized iron for tin roofing, tin in plates and sheets, nails, screws and rivets, tubes and pipes. Flour, corn, meal, rice, oats, ham, bacon, salt beef, pork, fish, butter, cheese, lard, salt, condensed milk, and other provisions and foods are also in great demand.

Besides the inducements pointed out the present moment is particularly opportune for American exporters to extend their trade in Jamaica. The rebuilding of the city of Kingston, the business part of which was almost completely destroyed in the earthquake and fire of January, 1907, and the refurnishing of the stores and houses create an unprecedented demand for lumber, shingles, cement, iron and steel framing, corrugated iron roofing, and other building material, store and office fixtures and furniture, desks, files, typewriters, etc.

REBUILDING FUNDS—CATALOGUES DESIRED.

The British Government has provided the colonial government with a fund of approximately $4,000,000, which is being loaned to the people of Kingston for the purpose of rebuilding the city, and quite a number of buildings are now being constructed, but the large majority of the business men of the city have been awaiting the outcome of the litigation with the insurance companies before commencing rebuilding. As the insurance policies contained the "earthquake exemption clause" there appeared to be little ground for the realization of the hopes of the policy holders, but in a test suit which has just been decided in the circuit court at Mandeville it was determined that the fire which destroyed the property of the plaintiff in the particular case was a " pre-earthquake " fire, and it is understood that the policy holders will in all other cases take the position that all the fires were pre-earthquake fires.

The recovery of the entire insurance carried on the property destroyed (about $4,000,000) would accelerate rebuilding. If the ultimate judicial determination shall be unfavorable to the policy holders, the imperial loan will still be available, and the rebuilding of the city is in any event an assured fact.

The colonial government proposes to rebuild in one group the government buildings, which previously were scattered over the city. The local finances are in excellent condition, the customs receipts for the year running nearly half a million dollars more than last year, because of the increased imports.

To assist in extending the trade of the United States here this consulate has fitted up and maintains a " commercial bureau of information." Catalogues of the various lines of American goods are kept systematically arranged. There are 75 different trade journals and magazines on file, and numerous trade directories, etc. This reading room is constantly visited by local merchants and buyers, and every effort is made to furnish information and data in relation to American goods.

PANAMA.

TRADE OF BOCAS DEL TORO.

THE UNITED STATES HAS BULK OF COMMERCE OF THE PORT.

Consul James C. Kellogg, of Colon, furnishes the following report of the trade of Bocas del Toro, Panama, for the fiscal year ended June 30, 1907:

The value of the imports into the port of Bocas del Toro during the fiscal year ended June 30, 1907, amounted to $968,409, an increase of $197,535 over the corresponding period of 1906. The imports consisted of 232,269 packages of general merchandise, valued at $841,941, and 411,119 cubic feet of lumber, worth $126,468. The greatest portion of the imports came from the United States, and consisted chiefly of beer, bridge material, vegetables, cotton goods, clothing, coal, canned goods, confectionery, flour, furniture, lumber, machinery, shoes, etc. The imports from Europe were ale, jewelry, laces, matches, perfumery, notions, stationery, etc., and from the West Indies cane sugar, rum, cigars, and cigarettes.

The exports from the port during the year amounted to $839,037, a decrease of $596,850 as compared with the fiscal year 1906. The articles were: Bananas, valued at $803,126; cocoa, $1,666; sarsaparilla, $11,891; cocoanuts, $846; hides, $270; rubber, $6,908; shells,

$13,460, and dried turtle meat, $870. With the exception of bananas, which went to the United States, the entire exports were shipped to Europe. In the coming year it is expected that bananas will be shipped to Europe, and in order to meet the demands of the expected increase of commerce the Hamburg-American Line is building steamers to be equipped with refrigerating apparatus, and these vessels will be put into the trade to carry banana cargoes.

INFLUENCE OF FOREIGN RESIDENTS.

The United States outranked all other countries in the trade with Bocas del Toro, notwithstanding the large number of Europeans engaged in business there and who, to a certain extent, create a demand for European goods. The population of Bocas del Toro is 4,954, of which 2,272 are Europeans, 50 are Americans, and the remainder natives of Panama and the other Central American States. In the interior, on the banana farms, are thousands of Jamaicans and many Americans and other foreigners.

In most of the Central and South American seaports are colonies of British and German merchants who foster trade with their native countries. Many of these merchants arrive as young men, taking positions as clerks, and after becoming familiar with the language of the country and acquainted with the people begin business for themselves. After a successful career these merchants sell out to others of their countrymen and return to Europe. In this way trade relations once built up with the mother country are not allowed to relax, but, on the contrary, the trade increases from year to year.

MEXICO.

INCREASED ACTIVITY BEING SHOWN BY GERMAN EXPORT FIRMS.

Special Agent Butman forwards from the City of Mexico the following statement regarding the activity of German merchants in Mexico, which is taken from a Mexican newspaper:

> German merchants are waking up to the great field for trade developments in this country, and many houses which last year entered the export field are doing a large business. Their success is causing other companies to follow their example, and the coming year will see many Hamburg houses, not formerly represented, sending representatives to this Republic to make a bid for a share in the business which is being done. One representative of a line of German export houses in Mexico, Central, and South America, and the southern part of the United States is at present in the city, and, discussing business conditions with reference to the exportation of German wares and products into Mexico, he said:
>
> "Germany is at the present time exporting to Mexico vast quantities of dry goods, furniture, farming, mining machinery, and other goods, and this export business, which has in the past had a remarkable growth, is destined to have a still greater expansion during the coming year, because of the fact that the German manufacturer is becoming more alive to the great field of trade which is as yet practically undelveloped, and which by proper effort and exercise of business judgment can be turned his way. Many export firms, which in the past have not figured in Mexico's trade, will enter the field this coming year, and will send traveling representatives into Mexico to teach the worth of German wares. German export houses at Hamburg are doing excellent business, and their trade with Mexico is increasing at a gratifying rate."

CANADA.

MARKET NEEDS OF THE DOMINION.

ROOM FOR TRADE EXPANSION BY UNITED STATES IN VARIOUS LINES.

Consul H. D. Van Sant reports that not only in the Kingston district of Canada, but in all the territory along the St. Lawrence and Great Lakes, there is still room for expansion in the trade of the United States in cotton goods, boots and shoes, marine and mining machinery, typewriters, jewelry and plated ware, glassware, staple groceries of the best quality and at reasonably low prices, hardware, woven wire fencing, automobiles, motor boats and machinery, rubber goods, and drugs. It must be understood, however, that the Canadians are becoming our chief rivals in their home market for certain lines in this trade and in rough cotton goods, rugs, blankets, knittings, farming implements, boots and shoes, confectionery, piano making, and in the manufacture of stoves, heaters, and other branches.

BRITISH COLUMBIA FISHERY.

EXTENSIVE IMPROVEMENTS TO BE MADE TO PRESENT PLANT.

Consul L. Edwin Dudley, of Vancouver, reports the formation of a local $500,000 company for taking over the present fishing station, oil and cannery plant at Skidegate, British Columbia, and enlarging this station. It is announced that salmon, cod, halibut, herring, dogfish, and clams will be fished for shipment, the oil obtained being treated and barreled at the factory and the offal being turned into fertilizer. It is proposed to build a cold-storage warehouse for the preservation of fresh fish awaiting shipment, and also to equip the fishing schooners with the latest cold-storage apparatus.

NEWFOUNDLAND.

COMPARISON OF EXPORTS FROM CANADA AND UNITED STATES.

A comparison of the values of the exports of the United States and of Canada to Newfoundland by Consul Harry A. Conant, of Windsor, is shown by the following figures:

For the fiscal years of 1905, 1906, and 1907, respectively, Canada's exports were $3,374,919, $3,211,191, and $3,055,655. The exports from the United States during the calendar years of 1904, 1905, and 1906 amounted, respectively, to $2,474,584, $2,776,077, and $2,924,863.

FOODSTUFFS AND DRINKS.

FLOUR AND WHEAT.

ASIATIC TURKEY.

AN EXTENSIVE WHEAT-GROWING REGION MUST IMPORT CEREALS.

Consul Jesse B. Jackson, writing from Alexandretta, tells of the need of flour in that part of Asiatic Turkey, due to the short wheat harvest:

American flour has not found much sale in Turkey, largely because the Empire is naturally a great producer of wheat. This consular district comprises over 50,000 square miles, about half of which is a fertile plain, suitable for wheat raising, in addition to which considerable quantities are raised around the numerous villages on the hills and mountains, affording an average annual exportation of wheat and flour of something like $1,250,000 in value, Egypt and Constantinople being the best customers. Furthermore, flour can come from European ports without transshipment, and at a low freight cost, to any part of the Mediterranean in from two to seven days. Comparing this with the long delay in shipments from America, with at least one transfer and usually damage to cargo by careless handling and otherwise, it is plain that under ordinary conditions a healthy trade in the American product is difficult.

There are in operation in Aleppo and vicinity a great many horsepower flouring mills and one with hydraulic power, while several steam-power mills are under construction. Many mills of various kinds of power are established in Urfâ, Marash, Aintab, Antioch, Adana, Tarsus, Mersina, and smaller towns and villages, there being a sufficient number to furnish all the flour for local consumption. The grades produced are usually very coarse, and much of it is not at all, or only partially, bolted, but it suffices for the needs of the people, who, if too poor to buy flour or to have their own wheat ground at a mill, resort to the use of a small stone hand mill, of which nearly every peasant family is the possessor. This method is common, and while laboring men receive 10 to 20 cents a day there will not be any extensive demand for a high-grade flour. The bulk of wheat consumed is first made into "buhrgoul," which is cooked in many different ways and forms the principal article of food, many families subsisting the greater part of the year on it.

LAST YEAR'S SHORT WHEAT CROP.

For many years there has been no appreciable importation of flour from any source, but last year there was a great shortage in the wheat crop in this consular district, and if all reports are true it extends throughout the Turkish Empire. This condition has caused the authorities in Aleppo and Mersina to prohibit the exportation of grain from those localities. Advices from Mersina are to the effect that at that place alone there will be a demand for 50,000 additional sacks of flour, while it is likely that in Aleppo the requirements will be much greater.

For several years there has been an importation of a certain amount of Russian and Roumanian flour, used exclusively by some of the well-to-do classes. It has been rising in price for some months, and lately has sharply advanced, with indications that it will soon go much higher. These circumstances should be taken advantage of by the American milling trade. All prices should be quoted per sacks of 100 kilos (220.46 pounds), c. i. f. Alexandretta or Mersina, as the case may be. The French language should be used in all correspondence with importers (a list of the more important ones of the district handling flour being filed with the Bureau of Manufactures).

ITALY.

HOME MARKET IS PROTECTED AND SUPPLIED BY HOME PRODUCTION.

American millers who seek an outlet for their flour in Italy are advised by Consul Albert H. Michelson, of Turin, that they can only secure such an outlet in the face of a number of important obstacles, which he points out as follows:

Italy imports a comparatively small amount of flour, principally because of the heavy customs duty imposed upon the product. This duty amounts to 11.5 lire per metric quintal ($2.22 per 220 pounds) and serves to protect the home milling industry, which is of considerable importance. On the other hand, Italy exports flour in fairly large quantities. The most recent statistics covering Italian exports and imports of flour are as follows:

	Exports.		Imports.	
	Hundredweight.	Value.	Hundredweight.	Value.
1904	816,716	$2,124,211	23,942	$58,071
1905	981,439	2,556,377	25,488	62,084

Flour can probably only be imported in considerable quantities into Italy under the most favorable circumstances and when the supply of native wheat is very low—an unusual occurrence. In 1907 the yield of native wheat was so large that the price of the grain is at present $0.50 or $0.60 per hundredweight below that of the foreign countries which usually supply Italy with wheat when the country needs it.

It should be remembered also that when the yield of native wheat is small, it is wheat and not flour that is imported. This is due to the lower customs duty on wheat as compared with that on flour, the duty on wheat being 7.5 lire per metric quintal ($1.45 per 220 pounds).

It should be remembered further that most of the large cities of Italy levy town dues (octroi) upon food products brought to them for consumption. This is not now the case with Turin, these dues, amounting to $0.26 per hundredweight, having been lately abolished.

In favor of the American miller it may be said that his flour is recognized throughout Italy as of the highest and most desirable grade, and that should his prices make competition possible the size of his shipments and the style of his packing are acceptable.

MOROCCO.

OPPORTUNITY FOR EXTENDING AMERICAN TRADE IN BREADSTUFFS.

Consul-General Hoffman Philip, of Tangier, reports that American flour could be introduced in Morocco direct without recourse to European middlemen to good advantage. He adds:

With proper attention it would be merely a matter of time before the American article would be in almost general demand in this market, and in price and quality it would be preferred by the consumer to the present importations from other countries. The principal importations of flour into Morocco come from France and Italy, of which a considerable percentage of the former's shipments are reshipments of American flour. There are at this time no direct importers of American flour in Tangier. The consignments received from Great Britain and Spain appear to consist almost entirely of American flour, sold at enhanced prices. The imports of flour into Tangier during the years 1905 and 1906 were as follows:

Country.	1905.	1906.
United States		$6,692
France	$226,531	166,775
Italy	143,543	58,787
United Kingdom	5,553	
Belgium	672	5,582
Germany		$540
Spain	$462	49
Total	376,761	238,425

The demand for imported flour in Morocco is chiefly confined to the foreign population of the coast towns, though a certain amount is consumed by the large native population. Owing to the lack of free coastwise trade in domestic wheat and the frequent crop failures in Morocco, there have arisen from time to time urgent demands on the part of the natives for large quantities of foreign flour, and could the United States be depended upon for regular supplies of flour and semolina at moderate prices, this extensive market would soon become more or less dependent upon it and a large consumption the outcome.

CAPE COLONY.

HOW THE TRADE IN THE AMERICAN PRODUCT SHOULD BE CONDUCTED.

In replying to inquiries made by an Ohio milling company, Consul-General Julius G. Lay, of Cape Town, Cape Colony, furnishes the following information:

It is learned upon inquiry that there is not a strong demand for American winter-wheat flour in this consular district, the principal flour imported from the United States being hard spring-wheat flour of high grade. It is strongly advised by those in the trade that any business done with South African importers of flour be transacted through New York commission houses, as in the past, the importers finding it more satisfactory to pay a small commission to a New York commission house which has an agent here on the spot with whom any complaints or misunderstandings can be taken up, should they arise, than to deal direct with American millers. It is stated positively by one firm in the trade that it would be impossible to get Cape Town importers of flour to give orders to be executed direct from the millers. This method of selling through the commission houses eliminates any risk on the part of the miller, who can get cash in New York upon delivery of shipments.

The latest freight rates which are procurable here on flour from New York to Cape Town are $4.86 per ton. To other South African ports: Algoa Bay, $5.47; East London, $6.07; Natal, $6.67.

Flour for this market must be put up in cotton bags holding 98 pounds each, which must be sewed up in a sack of canvas or jute. The duty imposed by the South African Customs Union on flour is 60 cents per 100 pounds, with a rebate of 6 cents for that of British manufacture.

In 1907 wheaten flour and wheaten meal was imported from the United States into British South Africa to the value of $962,369, the other principal sources of supply being Australia ($1,759,271) and Canada ($612,453).

BRITISH INDIA.

SUJI IS A POPULAR FOODSTUFF OF BRITISH INDIA.

In a report from Calcutta, Consul-General William H. Michael says that "suji" is probably the most popular of wheat foods used in India except flour. This leads him to describe the food:

Suji is made into mush, the same as certain American wheat breakfast foods are prepared for the table, and it is every way palatable, especially with cream and sugar. It is equal to any wheat breakfast food I have ever eaten, and is an excellent substitute for corn meal in making "corn bread."

It is almost impossible to get corn meal on the plains in India, for the reason that it will not keep in this hot, damp climate. It was suggested that suji looked so much like corn meal that possibly it might prove a good substitute in making bread. The experiment proved successful and now this substitute for corn bread is available at any time. The formula for making the bread is the same as for making the real corn bread, except that the suji batter should be a little thinner on account of its thickening up considerably more than corn-meat batter. Suji "corn" bread has the advantage over the genuine in that dyspeptics after eating it find that it does not ferment, is not so heating, and will not produce eruptions on the skin. It will also keep in hot, even tropical, weather much longer than corn meal.

Upon inquiry here as to how suji is made, one intelligent miller wrote: "Suji is produced at the first and second breaks in a roller mill. It resembles semolina. No special machinery is required except a separator or grading machine for extracting it from the general stock produced from crushing wheat."

TUNIS.

LARGE IMPORTS OF MACARONI WHEAT FROM UNITED STATES.

Consular Agent Auguste J. Proux, of Tunis, states that the imports of wheat into Tunis in 1906 amounted to $500,000, of which $130,000 was from Russia, and $284,000 from the United States, the importations from the latter being confined to the macaroni variety, which gave full satisfaction to purchasers. Flour is extensively imported into Tunis by French firms, who are likely to retain their advantage because French flour is exempted from duty, while that received direct from other countries is charged as follows per 220.46 pounds: At the rate of extraction of 70 per cent and above, $2.12; 70 to 60 per cent, $2.61; 60 per cent and below, $3.08. [The names of the leading buyers of cereals are recorded at the Bureau of Manufactures.]

SPAIN.

FOREIGN WHEAT REQUIRED.

As foreshadowed in his previous report, with reference to the deficit in the Spanish wheat crop, Consul-General Benjamin H. Ridgely, of Barcelona, reports that it is now announced that at least 1,000,000 tons of wheat will have to be imported into Spain between December 1, 1907, and August 1, 1908. [A list of the leading millers and wheat importers in Barcelona is on file at the Bureau of Manufactures.]

CANNED GOODS.

COLOMBIA.

WRONG METHODS OF AMERICAN EXPORTERS.

Consul Isaac A. Manning, of Cartagena, sends the information that the United States is not supplying its share of canned goods to the markets of Colombia, and that inquiry has developed some of the reasons therefor, which he sets forth:

It seems that no American canned goods are supplied directly from manufacturers, and rarely from jobbers, all orders being placed through commission brokers in New York, who send out their buyers to fill the orders. On these buyers, it is declared, depends the responsibility for the failure of Colombian importers to get standard goods from the United States, and therefore they are to be blamed for the dissatisfaction with American goods which drives the trade to England and France.

During the six months between July 1 and December 31, 1906, the United States, which should have supplied this market with at least two-thirds of the canned goods consumed, was able to place but 27 per cent thereof. England had the bulk of this trade, with 44 per cent, leaving France third, and Spain and Germany last, out of 75,465 kilos (kilo=2⅕ pounds) imported through Cartagena in that period.

BEST GOODS NOT FURNISHED—OTHER ERRORS.

One prominent dealer in tinned or canned goods told me that on more than one occasion he had ordered goods of certain reliable brands from the United States, but that the export agent had sent him something else, not up to the standard, and that he had given up trying to get his general supplies from there. Another said the export agents are not careful to secure and ship fresh lots of goods, with the result that many "go bad" here before they can be disposed of.

Fault is found also with the fact that the cans exported are not standard sizes, and that the American label on exported goods does not compare with either the English or French labels, and therefore does not lend to display. As to the former complaint, there can be little doubt, and the goods shipped too often are "seconds and thirds," as in the case of some tomatoes I recently purchased here, being light in weight, containing but little fruit, of poor quality, and too much water.

The labels on American goods are really often damaged by being loosely and carelessly placed on the can, arriving here badly torn or rubbed. This never occurs with the French label, which is gotten up for effect, and carefully placed on the can, and it rarely occurs with the English.

POPULAR LINES OF GOODS.

There should be a large sale for American canned goods here if the importers could be sure of getting what they wanted when ordering. The demand runs to such goods as tomatoes, peas, corn, succotash, asparagus, spinach, such fruits as grapes, peaches, pears, apricots, strawberries, blackberries, plums (especially green gage), such tinned meats as deviled hams, chipped beef, corned beef, beef extracts, "wiener würst" and other sausages, sardines, salmon, and foods of this character. There would also be a sale for good dried prunes, if packed in light tins of 1, 2, and 5 pounds. Dried fruits soon spoil, get wormy, etc., here, unless packed in hermetically sealed cases. French canned prunes are on sale, No. 3 size (presumably 40s or 50s, American scale), being those usually imported. These retail at $1 gold for a can weighing 1 kilo. American canned prunes for the same money should prove more desirable in both quantity and quality. It is stated that the prunes for this market should be very black in color. Why this is so is not apparent, for the French-packed prunes, while having this color, are not so true to taste, to one from a prune growing and packing district, as are the American, which retain more of their natural color. The French pack their prunes more as a conserve, or preserve, adding a sirup to them, and this probably accounts for the color and taste.

Cherries and jams would sell if packed in glass jars which could be used again for other purposes, for the duties are too high for the importation of "throw-away" bottles. However, some are even sold in "waste" glass.

SALES SUGGESTIONS.

In order that this trade may be secured for the United States the manufacturing grocers or jobbers should send their own agents here and not depend on commission agents, whose profits too often depend on buying poor goods and charging their customers the prices of the best grades therefor. Travelers with samples are requisites for increased trade, and I feel sure this does not only apply to Colombia, but to all South America.

Jobbers and manufacturing grocers desiring to extend their sales in these countries must remember that credits are usually given by European houses, but it is generally known that few failures to pay when accounts are due are reported. There are a number of firms here who no doubt would be able to satisfy jobbers or manufacturers that their credit is good and that they are to be trusted. If an effort were made to do business with them, keeping these points in view, the future results would be satisfactory. American canned-goods firms might write to the wholesale and retail grocers of Cartagena [names recorded at Bureau of Manufactures], of whose financial standing they can easily be satisfied through an American financial agency which has agents here, or through the local banks [a list of which is also furnished].

BRAZIL.

HOME VERSUS FOREIGN PRODUCTS IN THAT MARKET.

In reply to a Chicago inquiry relative to fruit culture in Brazil and the possibility of selling American canned goods in that market, Deputy Consul-General J. J. Slechta, of Rio de Janeiro, writes:

The increase in the production and consumption of Brazilian canned fruits and meats has been very great, though it is impossible to give figures that are at all reliable. In a visit to the retail establishments in the various districts of Rio de Janeiro I found that every vender of provisions has a good stock of canned meats, produced mostly in Rio Grande do Sul, though some come from Minas Geraes. The production of lard in the former State is said to have doubled in the past year. Every grocer of moment in the city has also a fairly good variety of fruits, canned mostly in Rio Grande do Sul, a few varieties coming from canneries in Sao Paulo.

Fruit is quite generally put up in pint tins. The labels are very much after the American type, some of them being so similar as to give the impression of having been copied, although the lettering is different. Two years ago it would have been impossible to find Brazilian products in the best stores; now they all have a good stock, in addition to their imported goods.

The duty collected on canned fruits and meats is certainly of a nature tending to foster national industry. Upon a good grade of canned peaches or Bartlett pears, for instance, the importer pays a duty, including charges for inspection, of about $17 per case of two dozen quart cans, or nearly 71 cents per can, the retail price of which would not be over 25 cents in the United States. The retail price here is never less than an amount equal, at present exchange, to $1.20. The duty on a higher grade of goods is the same, so that an article like fine pears, in a glass jar, quart size, selling for perhaps 40 cents in the United States, retails for $1.50 in Rio. The duty on canned vegetables is about 20 per cent less; a 15-cent can in the

United States of sweet corn retailing here for an amount equal to 65 cents.

In spite of these high prices for the foreign article, I found some very good assortments of preserves in many of the better class establishments. Any one of a score of dealers is prepared to supply a good brand of American canned peaches or pears. A few have high-grade qualities, their stock including American canned salmon and other canned fish goods.

TRADE SUGGESTIONS.

The products of Brazilian canning factories sell at retail for at least 40 per cent less than imported goods, and this largely accounts for the growing demand for the Brazilian product. But the fact that the market is well supplied with foreign products indicates a preference therefor which American producers should take advantage of to a greater extent than at present. The best dealers, who have no prejudices, will not hesitate to say that American canned fruits are preferred to all others, including the best Portuguese brands, so widely used here. It is difficult to reconcile this statement with the fact that, although American canned goods are offered for sale by more than a score of the high-class dealers in the city of Rio de Janeiro alone, the imports from the United States are so slight as not to merit a place in the import statistics.

Probably one of the chief reasons for this is the great advantage which southern Europe has over the United States in the matter of transportation. A grocer can have his orders for fruit from Portugal filled within five weeks, and he can have a fresh supply each week. The same thing is true of goods from Italy. At least two months are required for filling orders from the United States, and purchasers can rely upon receiving a regular supply not oftener than once a month. Now that the leading steamship line from New York has decided to inaugurate a biweekly service, the situation in this respect will be improved materially.

Portuguese goods are labeled in the language of Brazil, and this, too, is an advantage which might easily be shared by American canners who care to produce special lines for export. Fruit and vegetables will find a readier sale if put up in pint cans than in larger ones, nearly all of the French, Portuguese, Spanish, and Italian goods coming in small-sized cans.

A very serious difficulty in getting American provisions of any kind on this market is the matter of a medium through which local dealers can supply themselves. An American commission house established here would be the means of increasing materially American exports of provisions to Brazil.

SOUTH AFRICA.

AMERICAN CANNED GOODS INDORSED BY CAPE TOWN CUSTOMS.

Consul-General Julius G. Lay, of Cape Town, forwards a copy of that portion of the "Report of the Medical Officer of Health for the Colony of the Cape of Good Hope for the Calendar Year 1906," just issued, relating to the inspection of canned foodstuffs entering that colony. He comments:

The statements made in this report are very favorable to American canned goods and will do much to dispel the prejudice against them among the people of South Africa if our packing houses would bring this report to the notice of the people. The report reads:

During the year a fairly large number of samples of tinned foodstuffs were examined, chiefly from cargoes which arrived at the Cape Town docks. A small proportion of "blown" tins were found in many instances, these being easily recognized by the official inspector; some brands of imported goods contained more bad tins than others, but in most cases they were the result of imperfect soldering. One special brand of tinned sausages, among which a very large quantity of bad tins were found, appeared to have been imperfectly sterilized before the tins were finally closed up, as no break nor leak could be found in the tins.

The contents of some hundreds of unblown tins of various American canned goods were carefully examined, both microscopically and by cultural experiments, but no noxious nor foreign material could be demonstrated. So far, our experience goes to show that much of the adverse criticism regarding this class of foodstuff has been grossly exaggerated. The vast majority of tinned goods imported into this colony appear to be perfectly wholesome and desirable articles of food. "Blown" tins are, as a rule, due to accident, and give such timely warning to one's senses that I am perfectly certain no one would be in danger of consuming the contents.

A large shipment of jams from Natal (evidently old military stock) was stopped at the docks and, after extensively sampling the same, some 1,750 cases were condemned as unfit for human food and ordered to be taken out to sea and destroyed. A large proportion of the tins in this consignment were leaking, and the contents having escaped over others made them a most uninviting lot of goods, and one wondered who would purchase such stuff. Many of the undamaged tins were examined. The contents of these were found to have corroded the inner surface of the tins to such an extent that the jam contained quite a perceptible amount of tin and lead.

RICE TRADE.

CUBA.

REASONS FOR THE GREAT DECREASE IN THE AMERICAN EXPORTATION.

In response to a request for information concerning American rice importations into Cuba, Consul-General James L. Rodgers, of Habana, makes the following report:

The importation of rice from the United States, according to Cuban importers, was more or less of an accident in the beginning, the American planters having sought this as a market for a second-grade surplus product several years ago, and being successful in the first instance, thereafter gave their attention to a market which had been possessed entirely by European countries. Whatever the fact, it is certain that a market developed, and that in 1905, strenuous effort to obtain a larger share of the trade having been made on the basis of proximity and a reciprocal tariff, there was an importation, according to Cuban statistics, of 33,682,506 pounds. It is further stated that attempts were made through Cuban legislative channels to give the great bulk of the trade to the American product, but there was a failure in that endeavor, and the American importation had a rapid decline.

The rice importations during the calendar years 1904, 1905, and 1906, according to figures furnished by the Cuban treasury department, are shown in the following table:

Countries.	1904.	1905.	1906.
	Pounds.	*Pounds.*	*Pounds.*
United States	4,596,477	33,682,506	806,852
Germany	65,829,029	60,997,201	74,425,612
Belgium	357,940	245,080	1,104,285
Spain	2,040,844	1,612,363	2,976,627
France		56,650	191
Italy		222	
United Kingdom	111,008,043	93,557,637	92,659,719
China	422	4,384	2,796
English India	12,666,707	24,778,554	19,801,108
Denmark			943,496
Holland			45,738
Total	196,439,462	214,934,597	192,766,374

The statistics for 1907 are not available, but the statement is made that American importations are practically nil. The reason for that will appear from the following: Whether the American rice shipped to Cuba has always been rated as of poor quality or whether some sample lot has been so graded is not known, but it is a fact that the American quality denominated as "fair" is not considered as equal to the "standard" received from Liverpool or Hamburg. The best rice entering the Cuban market is that from Spain—the Viscayan brand—but as it comes in such small amount it can hardly be considered; therefore the Indian rice, which is cleaned and seasoned in Liverpool and Hamburg, is accepted as the standard, and while it is not as good as the best grade used in Europe and America, it is satisfactory to the people, into whose diet rice largely enters. Another objection to the American product reaching Cuba is said to be the lack of maturity, if the newly gathered product can be so described.

MARKET PRICES AND FREIGHT RATES.

But the principal reason for the decline of the American rice importations into Cuba is in the price as compared with the Indian product. The price of American rice screenings, which is used in brewery production, varies with the season of importation from $2.87½ to $3.25 per 100 pounds in the port of Habana. American "ordinary" rice is priced here at from $4 to $4.75, and the "fair" quality at from $4.62½ to $4.75. The "standard" quality of Indian rice, through Liverpool and Hamburg, however, costs in Habana Harbor from $2.55 for spring and summer delivery to $3 for winter delivery. The freight rate on rice from New Orleans is about 15 cents per hundred pounds and from New York 18 cents, while the rate from Liverpool and Hamburg is about 16 cents per hundred pounds.

The table showing the importations will give an accurate idea of the consumption, since no attempt to store a large surplus is made. That the consumption is increasing, owing to Cuba's growing population and the increase in the prices of other foodstuffs, is apparent. But if the United States rice growers wish to reenter the Cuban market it would seem as though they must lower their prices, furnish a better quality, and get lower freight rates, for the advantage in duty, a reduction of 20 per cent will not offset the European prices.

BRITISH INDIA.

ACREAGE AND YIELD OF FOUR LEADING PROVINCES.

From an official circular, covering 78 per cent of the area sown to rice in British India, Consul-General William H. Michael, of Calcutta, supplies the following statistics:

The estimates made in October, 1907, give the acreage under rice in the four provinces mentioned for the three last crop years as follows:

Province.	1905-6.	1906-7.	1907-8.
	Acres.	*Acres.*	*Acres.*
Bengal	25,150,600	24,592,900	24,461,800
Eastern Bengal and Assam	15,150,200	16,107,400	15,400,700
Madras	3,725,000	3,815,100	3,747,700
Lower Burma	6,713,400	6,973,700	7,271,000
Total	50,789,200	51,489,100	50,881,200

The average yield of rice in the foregoing provinces is 2,153 pounds per acre, but allowing for losses through various causes the yield may be estimated at 2,000 pounds per acre, which would give a total yield of 101,762,400,000 pounds for the year 1907-8, which may be considered 90 per cent of all the rice produced in India.

JAPAN.

HOME YIELD AND IMPORTATIONS OF RICE.

Consul-General Henry B. Miller writes from Yokohama that the estimated rice crop of Japan for 1907 is 50,391,242 koku (1 koku= 4.9 bushels), against 46,302,530 in 1906, 38,172,560 in 1905, and 51,430,221 in 1904. Rice imported into Japan is usually of a cheap quality, but it may eventually be possible to import American rice. In 1904 Japan bought $24,895,956 worth of foreign rice, in 1905 $23,990,000 worth, and in 1906 $13,086,000 worth. The average price of foreign rice in 1906 was $5.35. [Importers of rice at Yokohama are listed at the Bureau of Manufactures.]

FRENCH COCHIN CHINA.

INCREASE IN PRICES DUE TO DECREASED SUPPLY AVAILABLE.

Vice-Consul Louis R. Gage reports that the shipments of rice from Saigon, French Cochin China, from January 1 to October 18, 1907, amounted to 2,415,847,347 pounds as compared with 1,245,039,038 pounds during the corresponding period of 1906. According to the forecast, however, the new crop will scarcely be of medium importance. Prices for paddy and rice have increased in proportion to the fall of the rates of exchange, and also because of the diminution of stock lots in the interior, the increased price of holders, and the few arrivals at Cholon.

FRUITS AND NUTS.

NORWAY.

OPENING FOR AMERICAN FRESH AND CANNED FRUITS IN BERGEN.

A report from Consul Felix S. S. Johnson says that the demand for fresh fruits in Bergen has been remarkable, almost all kinds being on the market, and that prices are exceedingly high. The consul particularizes:

The western coast of Norway is mountainous and rocky, the chief occupation of the inhabitants being fishing, although farming is carried on to a certain degree. As a rule farms consist of only a few acres, and few vegetables other than potatoes are planted. Sufficient grass is raised for the feeding of cattle during winter, while apples, cherries, and berries have of late years been successfully grown, and a ready market for their sale has been found in Bergen. The fruit brought in from the farms, however, has not been sufficient to meet all demands and foreign importations have been made. As to customs tariff, all articles grown and raised on the Norwegian farm are protected by a heavy duty—not only fruits and vegetables, but cattle as well.

Bananas, imported via Newcastle, England, are found in most stores and there is a steady demand for them at 2½ cents each, retail. Oranges, grapes, and peaches are imported from Spain and Italy, selling, respectively, at 12 to 15 cents per dozen, 12 to 50 cents per pound, and 12 cents apiece. Cantaloupes or muskmelons retail at 50 to 75 cents, all importations being from France. It is gratifying to see in some of the fruit stores American apples, which are said to sell well; on account of distance, indirect steam communication, and customs tariff they are more expensive (12 cents per pound, retail) than those from other countries. No attempt has been made to introduce American pears, which are far superior to those imported from other countries, and a fair price would probably be realized if a few shipments were made to Norway. American canned fruits are to be had here, especially those from California, but more could be sold if samples and price lists were sent to the local dealers at Bergen. [Importers' names may be secured from the Bureau of Manufactures.]

An opportunity for the sale of fruit trees in Norway is now open to our nurserymen. Apple, pear, and cherry trees are in demand and are now mostly imported from England and Germany. Farmers could be induced to make their purchases from America. At the present time no American firm has a representative at this place. Garden seeds would also find a market here.

CANADA.

CAPE GOOSEBERRIES—NEW GROUND FRUIT FOR NORTHERN CLIMATES.

Consul L. Edwin Dudley, of Vancouver, sends the following report on the introduction of a new fruit into British Columbia:

At the meeting of the Northwest Fruit Growers' Association, composed of delegates from Washington, Idaho, Oregon, and Utah and the Province of British Columbia, which held its sessions in this city in December, Prof. J. R. Anderson, deputy minister of agriculture of this province, submitted a report regarding "Cape gooseberries," of which the following is an extract:

> The Cape Gooseberry (Physalis Peruviana edulis) is a plant belonging to the same natural order as the tomato and potato and is highly esteemed for its peculiar flavor. The specimens exhibited were grown by Mrs. A. E. Richards, of Victoria, British Columbia, who has successfully grown them for several years from seed of her own saving. Her plants on December 2, 1907, were loaded down with ripening fruit, and as Mrs. Richards believes that this fine fruit is of great commercial value she feels assured that a trial will result in the greatest satisfaction. Besides producing fruit of the highest utility, the plant is highly ornamental, and is worthy of cultivation for that purpose in any garden. The ornamental balloon vine, so much used for decorations, is a near congener. Until Mrs. Richards's experiments, covering a period of two years, were completed it was not known that this fruit could be successfully cultivated outside of South Africa, western Australia, and the northern islands of New Zealand. She tried to produce it in England and other places, but failed. It was with some trepidation, therefore, she commenced to experiment in 1904 with some seeds from western Australia. They were planted and germinated successfully. That winter she feared frost might kill her valuable seedlings, so they were removed to the conservatory. But when the fall of 1905 arrived the plants appeared so hardy that they were left out in the open, and now she has the pleasure of plucking the ripened fruit. The plant requires a rich, sandy, or volcanic loam, lots of sunshine and mild winters. It is very ornamental, hardy, and enormously productive. Wherever it can be grown it commands a ready sale, having an exquisite flavor. It is most delicious when preserved.

[The Cape gooseberry has also been introduced into the New England States. Mr. William A. Taylor, in charge of field investigations in pomology for the United States Department of Agriculture, advises the Bureau of Manufactures that he recently found some of this fruit for sale in the Boston market at 10 cents a quart.]

FRANCE.

SMALL WALNUT CROP CAUSES HIGH PRICES AND LIGHT SALES.

Consul C. P. H. Nason, of Grenoble, submits the following report on the "English" walnut crop in that French district:

As against an average normal yield of about 40,000 bales of 100 kilos (220 pounds) each, of best quality table walnuts, the yield in 1907, according to careful estimates, is only about 15,000 bales, though it may rise somewhat above this minimum. As against an average yield of about 35,000 cases of about 25 kilos each (55 pounds) of smaller nuts (Chabertes), this year's yield is only about 20,000 to 25,000 cases. The quality of the nuts is fine, they are of good size, and only about 10 to 12 per cent are found to be shriveled or blighted, while those of the previous year, though fair in appearance, were blighted inside to the extent of 25 per cent, and even more in certain localities. Of the table nuts, it is stated that only about 5,000 bales are as yet sold. The prices of these went up to 115 francs ($22,20) per 100 kilos laid down in New York, but are now current at about 104 and 105 francs. At the latter price the growers would receive about 90 francs in the field. The prices of the smaller nuts, shelled or in kernels, are from about 250 to 280 francs ($48.25 to $54.05) per case of 25 kilos (55 pounds) delivered in New York. The cost of transportation by rail to port of shipment, and by water to New York, including all expenses, remains about the same as in previous years, namely, 15 francs per 100 kilos. Judging by the present situation and from information gathered from reliable sources, the inference is that prices are likely to remain stationary or to decline unless the demand should become more animated.

SUGAR INDUSTRY.

ITALY.

CONDENSED-MILK MAKERS PROTEST AGAINST SUGAR CONVENTION.

Consul James E. Dunning, of Milan, forwards the following translation of a protest filed with the Italian ministry of finance by the directors of one of the foremost manufacturers in Italy of condensed milk against the action of the last sugar conference in Brussels, Italy's ratification of which will come up in Parliament in February:

A new danger menaces the Italian condensed-milk industry since the deliberations of the last sugar conference held at Brussels for the revision of the international sugar convention, according to which, in an additional section signed on August 28 last by the representatives of the participating governments, Great Britain will, after September 1, 1908, dispense with the surtax upon imported sugars which have enjoyed a bonus on exportation from the country of exportation.

This privilege will have for its immediate consequence the result that England will from that date be able to procure for its consumers of sugar and for its industries dependent upon its use sugars enjoying either an open or concealed premium on exportation at prices inferior to those paid by other countries. We wish to note that, to give continued life to the condensed-milk industry of Italy (an industry specially and essentially founded upon our exportations and benefited by the protective tariff in favor of sugar of native production), we are obliged to make use of the concession regarding temporary importation of foreign sugars which since January 1, 1907, are used in the manufacture of condensed milk. Now it is evident that, thanks to the supplementary section of the Brussels conference before mentioned, England is able to buy sugar for her condensed-milk trade at a lower price and from countries which accord premiums upon exportation, while we in Italy will be forced to acquire our foreign sugars, not enjoying premiums, at higher prices because there will remain imposed here the overtax which Great Britain will no longer impose.

It is easy to forecast the unhappy consequence to our industry. The factories in Great Britain, which are numerous (5 in England and 20 in Ireland), will not only be able to attack our trade in their own field, where until now we have had an outlet for the greater part of our production of condensed milk, but will be able to battle with us advantageously for sales in other countries. Her advantage will be particularly strong because she has in quantities both coal fuel and raw milk and will now be able to buy on better terms than we can enjoy the sugar which is used in condensed milk in a proportion of from 40 to 50 per cent.

BELGIUM.

EUROPEAN DISCUSSION OF THE EFFECTS OF BRUSSELS CONVENTION.

In a report from Liege, Belgium, Consul H. Abert Johnson says it seems that the beet-sugar situation this year is far from satisfactory, and that both the farmers and the sugar manufacturers have good grounds for uneasiness. His trade details follow:

The beet crop is decidedly short and the percentage of sugar, which it was hoped would be rather larger than usual, proves to be much below the average heretofore obtained. The period of sugar making will be short, and, as prices are disastrously low, it is expected that more than one sugar factory will be obliged to suspend operations for next year. The effects of the Brussels sugar convention have not, so far, been as favorable to the industry as had been anticipated.

There appears to be some hope that through the acceptance of the terms of the Brussels convention on the part of the Russian Government prices may take a more favorable turn. Such a result, however, although within the range of possibility, can hardly be counted upon as a probability. On the other hand, it is reported that at a recent meeting of the Société des Agriculteurs du Nord (a farmers' organization of France) the following resolutions, already agreed upon by the syndicate of sugar manufacturers of France, concerning the additional act of the Brussels conference, had been adopted:

First, considering that the renewal of the Brussels convention could only tend to further aggravate the already precarious position of the French sugar manufacturers, the committee of the sugar syndicate is of the opinion that the ratification of the additional act should be made subordinate to the acceptance of the Brussels convention by all the sugar-producing nations of Europe and to the lowering of the French excise tax on sugar to the level adopted by Germany.

Second, the committee expresses the wish that the French Government would take steps to introduce a system of giving bounties for what is termed denatured sugar that serves as food for cattle.

EUROPEAN PRODUCTION.

GERMANY HAS GREATEST DECREASE OF CROP.

Consul George Nicolas Ifft, of Annaberg, makes estimates of the 1907 sugar production of Europe, based upon detailed reports from all the sugar manufacturing centers:

These give an output for all Europe of 6,288,000 tons, as compared with the output of 6,639,000 tons in 1906. This is a decrease of 349,000 tons. The estimate distributes the sugar output in tons, as compared with that of 1906, as follows:

Country.	1906.	1907.	Country.	1906.	1907.
	Tons.	*Tons.*		*Tons.*	*Tons.*
Germany	2,241,000	1,997,000	Holland	179,000	166,000
Austria-Hungary	1,380,000	1,393,000	Italy	115,000	140,000
Russia	1,433,000	1,380,000	Sweden	156,000	111,000
France	747,000	704,000	Spain	89,000	109,000
Belgium	281,000	238,000	Denmark	66,000	50,000

PROVISIONS.

GERMANY.

INCREASED CONSUMPTION OF SPECIAL FOOD ARTICLES IN THE EMPIRE.

Consul H. W. Harris, of Nuremberg, in calling attention to the marked increase in the use in Germany of imported table delicacies says that it is a subject of frequent comment among tourists and others. He continues:

The menus of the better hotels and restaurants as well as the store windows of dealers show an increasing variety of canned goods, bottled goods, imported liquors, tropical fruits, etc. The demand for olives, small pickles, hot sauces, mustards, etc., remains small as compared with that in the United States, but of these also there is an increased consumption in Germany, the demand being in part supplied by domestic preparations and partly by other countries. The following statistics show the importations of some of these special food supplies into Germany for the first nine months of the years

1906 and 1907, respectively. The figures are in metric tons of 2,204.6 pounds each.

	1906.	1907.		1906.	1907.
	Metric tons.	*Metric tons.*		*Metric tons.*	*Metric tons.*
Oysters	244	517	Caviar	215	234
Crabs	782	809	Grapes for table use	15,872	19,373
Lobsters	640	804	Tropical fruits	183,478	185,028

COLOMBIA.

OPPORTUNITIES FOR THE SALE OF CEREALS.

Consul Isaac A. Manning, of Cartagena, in response to a New York request for information regarding the use of American cereal food products and the opportunities for trade development in Colombia, writes as follows:

As the use of prepared cereals as breakfast food depends largely on an acquaintance with them, and as they have had no practical demonstration, the number of persons consuming such foods here is limited, the only ones known being a brand of oats and cracked wheat. The oats which have the best demand come in small tins, which avoids the danger of deterioration. Cracked wheat, which was recently received by a local merchant, became sour before a small barrel could be disposed of, and this danger accompanies any cereal sent in carton or bulk. The humidity and heat combine to cause acetous fermentation, and this should be borne in mind in packing cereals for the Tropics.

From conversation with local merchants who have handled the American breakfast foods, it may be stated that the only possible way of increasing the sale of cereals and breakfast foods in Colombia is by means of demonstration, such as is commonly made at local groceries in the towns of the United States. The local merchants report the growth of demand as slow, and attribute it to lack of knowledge of the food value of these products. [Importers of this class of foods are listed with the Bureau of Manufactures.]

ITALY.

LARGE EXPORTS OF TOMATO PRODUCTS TO THE UNITED STATES.

Vice-Consul Homer M. Byington, of Naples, states that the annual increase of half a million dollars in the exports of macaroni from Naples and Castellamare to the United States has opened a market for other Italian products. With the growth of macaroni exports the demand for tomato paste, to be used in making the sauce therefor, and peeled tomatoes in cans has also increased, the exports from the two ports mentioned to the United States amounting to $6,475 in 1905, and to $147,351 in 1906, while for the present calendar year the increase will probably be 100 per cent over last year. These goods pay, upon entering the United States, a 40 per cent ad valorem duty, and considering the high prices Italian manufacturers receive this progress seems remarkable. Tomato paste, in one-half pound cans, sells for $2.41 per 100 cans, and peeled tomatoes, in 1½-pound cans, sell for $6.95 per 100 cans. [A list of shippers invoicing at the Naples consulate is on file in the Bureau of Manufactures.]

POWDERED EGGS.

CHEMISTS INTERESTED IN NEW PROCESS FOR FOOD PRESERVATION.

Consul Thomas H. Norton, in a report from Chemnitz, states that much interest is felt among German chemists charged with food investigation over the reported degree of success which has attended efforts to preserve eggs by desiccation. This leads him to furnish the following information:

The process was invented by a chemist of Victoria, Australia. The results obtained have been so satisfactory that the Farmers and Settlers' Cooperative Society, of Sydney, has erected an extensive plant for the manufacture, on a large scale, of "egg powder."

The process is as simple a one in principle as that of preserving fruit by sealing it hermetically at a boiling temperature or of pasteurizing milk. Eggs, freed from the shells, are dried at the relatively low temperature of 54.5° C. (130° F.). The operation can be rapidly executed in containers kept at this temperature, from which the air has been exhausted, and from which likewise the aqueous vapor is withdrawn as fast as given off by evaporation from the eggs.

The advantage of this method consists in the fact that there is no alteration in the chemical composition of the eggs. There is simply a loss of the greater part of the water held mechanically in combination, as when fruit is dried by free exposure to the air and sun or by more rapid artificial methods. When thoroughly desiccated and brought by pulverization into the state of coarse powder the egg material can be preserved for an indefinite period in ordinary packages, if kept in a dry place.

FOOD VALUE—POSSIBILITIES OF THE INDUSTRY.

The eggs are "reconstituted" by the simple addition of water to the dry powder, the resultant mass being quite indistinguishable from newly beaten-up eggs. Before the method was accepted as a basis for industrial exploitation, it was submitted to exhaustive critical tests by the Victorian department of agriculture, which demonstrated that purity, ease of digestion, flavor, etc., were entirely unaffected by the operations of desiccation, preservation for a long period, and reconstitution by the addition of water, provided that fresh eggs were employed at the outset. This latest novelty in the processes of insuring the inexpensive and healthful preservation of staple articles of popular diet forms a welcome addition to those already so highly valued, such as the freezing of fresh meat, the evaporation of fruits, and the desiccation of milk.

From the economic standpoint it is evident that the cost of eggs as an article of food will be notably reduced when large tracts in remote regions are utilized for the purpose of poultry raising. An important factor would be the low cost of freight for a compact powdered material as contrasted with the expense of transporting eggs in the natural fragile condition, containing 74 per cent of water and involving much waste space in packing. Equally important would be the certainty of securing egg meat guaranteed as prepared from absolutely fresh material. The simplicity of preservation and the ease with which a variety of savory dishes can be expeditiously prepared from eggs enhance the value of such a food preparation, not only for the ordinary household, but also for the emergencies of travel.

BUTTER SUBSTITUTES.

SOUTH AFRICA.

OPENING FOR AMERICAN MARGARIN—IMPORT REGULATIONS.

Consul Edwin S. Cunningham, of Durban, in response to an inquiry, transmits the following information relative to imports of butter substitutes and dairy products into the South African colony of Natal:

All the margarin sold here is imported, none being manufactured locally. In 1906 the total imports amounted to 339,891 pounds, of a declared value of $33,223, or, roughly, 10 cents a pound. The imports were derived from several countries, but approximately 95 per cent came from the Netherlands and the United Kingdom, the first-named being by far the largest contributor. A considerable amount of the margarin imported is intended for transmission to the Transvaal and Orange River Colony.

The ordinary style of packing is in 14-pound tins, 8 in a case, and in 28-pound tins, 4 in a case. Many brands are sold on the local market. Prices vary according to grade, but a fair estimate of the rates charged by wholesale houses in Natal is from 17 to 20 cents a pound, less 5 per cent. It seems that there is a promising opening for the manufacturer who can supply an equally acceptable product at a slightly lower price. Nearly all bakers and confectioners use margarin, as both butter and lard are expensive. Last year the United States sent only 2,438 pounds of margarin and similar articles, valued at $272, into this colony.

The following regulations govern the importation of all substitutes whatsoever for butter into this colony, the disregard of which would lead to much trouble and annoyance:

> Every package, parcel, or vessel, whether open or closed, containing margarin shall be conspicuously marked "Margarin" on the top, bottom, and sides, in printed capital letters; and every person selling margarin by retail, save in a package duly marked as aforesaid, shall in every case deliver the same to the purchaser in a paper wrapper, on which shall be conspicuously printed "Margarin" in capital letters.

The same regulations apply to margarin cheese.

Recently a shipment of American condensed milk was refused entrance at this port because it did not come up to the standard established by the pure-food regulations. I inclose the substance of the act, with the regulations prescribed thereunder, governing the importation of milk and cream, butter, condensed milk, and cheese. [These are on file in the Bureau of Manufactures.]

AUSTRALIA.

CUSTOMS REGULATIONS RESTRICT OLEOMARGARINE IMPORTS.

Consul F. W. Goding, writing from Newcastle, says that oleomargarine manufactured in New South Wales is packed in 7, 14, and 28 pound tins for export, and in 56 pound tubs for local use. About three tons are used locally per month, and it wholesales at 15 cents per pound. The Australian customs law imposes on all foreign made oleomargarine a duty of 6 cents per pound, and requires that the outside case of all packages be labeled plainly "Oleomargarine." It is stated that these restrictions were placed upon this product to prohibit its importation.

COLD-STORAGE CONGRESS.

AN INTERNATIONAL CONVENTION TO BE HELD IN PARIS IN JULY.

Consul-General Frank H. Mason advises that an international conference of great interest and importance to all leading commercial nations, and notably to the United States, will be held in Paris in July next, the particulars of which he furnishes:

This will be the International Congress of the Refrigerating Industries, which is now being organized under the patronage of the French ministers of agriculture, commerce and industry, colonies, and the marine. The conferences will take place in the Grand Palais, the principal exposition building of Paris, and will begin during the early days of July.

The purpose of the congress is to bring together leading experts and representatives of the principal industries and enterprises of all countries in which refrigeration is used as an agent for facilitating the preservation and transportation of food materials by land or sea. Through such a conference of practical and scientific men it is hoped to improve and perfect and on certain lines to standardize the industries of cold storage and transportation by the study and adoption of the most advanced methods and appliances which experience has thus far developed, and to thereby extend the range and promote the efficiency of refrigeration as a factor in international commerce.

OUTLINE OF TOPICS.

The work of the congress has been laid out in six sections, each of which is under the control of a special committee, headed by a president chosen from the most eminent specialists of France, as follows:

SECTION I. President: M. D. Arsonval, professor of the College of France. Subject: Low temperatures and their general effects, physical, chemical, and biological. General and alimentary hygiene; dietetic value of chilled and frozen food materials.

SECTION II. President: M. H. Lenaté, member of the Institute and professor of the College of France. Subjects: Refrigerating appliances; refrigerating machinery; industrial methods for the production of cold; compression of liquefiable gases and air; absorption, etc. New apparatus; unification of refrigerating measures; proposed units; practical methods of testing refrigerating machines; determination of refrigerating power; employment of wet or dry refrigeration; the construction of cold staorage buildings; experimental data as to the different insulating materials and methods of testing the same; the use of refrigeration in magazines for explosives and in abattoirs; distribution of cold, central stations, etc.

SECTION III. President: M. A. Gautier, president of the National Academy of Medicine. Subjects: The application of refrigeration to food, viz, causes and effect of changes in the condition of perishable products while in cold-storage chambers; colonial products capable of benefiting by refrigeration; artificial cold in the manufacture and preservation of butter; cold-storage organization of warehouses and central markets; victualing of besieged towns and troops in field campaign service; preservation of fish and refrigerating installations on seagoing fishing vessels.

SECTION IV. President: M. E. Tisserand, honorary director of agriculture. Subject: The application of refrigeration to other industries, viz, the retardation of flowering of plants by the application of cold; preservation of flowers; the influence of refrigeration on the clarification of fermented beverages; ice manufacture, the best methods of obtaining pure table ice and of preventing contamination. Mines, metallurgy, public works. Stearine, paraffin, margarin, etc. New industrial applications of refrigeration.

SECTION V. President: M. Levasseur, member of the Institute and director of the College of France. Subject: The application of refrigeration to commerce and transport, viz, the progress of trade in perishable produce since the adoption of refrigeration; organization of cold-storage transport on railways; refrigeration cars, cold-storage warehouses and charges; organization of cold-storage transport by sea.

SECTION VI. President: M. J. Cruppi, vice-president of the Chamber of Deputies. Subject: Legislation, viz, laws and regulations to be modified; state encouragement given in various countries to the refrigerating industry; the sale during the closed season of cold-stored game and fish; questions of insurance; the value of refrigeration in the food supply of the poorer clases.

SPEECHES AND DISCUSSIONS.

The official languages of the congress will be English, French, German, and Italian, and papers may be submitted in either. Papers on the subjects comprised in the foregoing schedule should be addressed to the Secretary-General, M. J. de Loverdo, No. 10 Rue Poisson, Paris, not later than January 15, 1908, or may be transmitted through the office of the British Committee, No. 3 Oxford Court, London, England.

Memberships are of three classes, viz: Donor members, who pay a subscription of not less than $20; ordinary members, who may be individuals, firms, or companies, and pay as subscription $4; and associate members, who must be a family relative—wife, brother, sister, or child of a donor or ordinary member. The value of an associate membership consists in the fact that it will entitle the holder to all concessions by railways, steamship lines, etc., and to admission to the sessions of the congress and the various fêtes and receptions which will be offered in Paris to visiting members and their families.

The congress has the full support and cooperation of the French Government, the honorary presidents being ex-President Loubet and Senator Freycinet, who is a member of the Institute of France and an ex-cabinet minister.

PARTICIPATION BY VARIOUS COUNTRIES.

Great Britain, Germany, and Russia will take an active part in the proceedings and will be represented by full commissions made up of eminent specialists and Government officials. It is hoped that out of this international conference may grow a more intelligent and effective system of food preservation and transportation, and as a collateral result, a basis of determined facts and principles upon which can be subsequently built up what is urgently needed, a system of harmonious and uniform laws and regulations governing the exchange of pure-food products between the leading commercial nations. Pure-food laws now exist in most enlightened countries, but they are in many cases discordant and contradictory in terms, and entail serious disagreements which obstruct international commerce and lead to friction and resentment between governments.

The United States is recognized as the pioneer in the application of cold storage on a large scale to food preservation and transportation, and, as the work of the congress will be along lines in which a vast number of American citizens—growers of fruits, vegetables, and meat-producing animals, packers and shippers of a wide range of food products, railway and steamship managers, and the owners of cold-storage plants throughout our country—are more or less directly interested, it is to be hoped that the American delegation and its work during the congress will be representative and worthy of the importance of the occasion. America is the natural source of supply of many food materials for densely populated Europe, and the influence of the coming congress, if rightly directed, will be to break down technical barriers and smooth the way for mutual understanding and for an enlarged trade. The Compagnie Transatlantique offers to delegates a discount of 40 per cent in the cost of passage between New York and Havre.

WINES AND LIQUORS.

CHINA.

PRODUCTION OF GRAPES AND WINE MAKING IN SHANTUNG PROVINCE.

Vice-Consul Ernest Vollmer, of Tsingtau, furnishes the following information relative to the cultivation of the grape and the manufacture of wine in China:

Aside from being the center of fruit culture in China, Shantung province raises large quantities of fine grapes, and soon promises to become a very important wine-making district. In the neighborhood of Tsingtau, mainly on the southern slopes of the Laushan Mountains, many grapes are grown for the fruit only. Large quantities are now sent to Shanghai and other places annually, a variety closely resembling the tokay of California predominating. White grapes are also grown, a sort of sweet water and a kind called "markobrunner" being the most common; but blue and black grapes are not found.

Apparently no attempt to produce wine has been made here, but in the Chefoo region, in northeastern Shantung, the industry has progressed much further. On the hills surrounding that city are many terraced vineyards, and an extensive winery has been in operation for years. It is stated that white wines, red wines, and champagnes of many varieties are made, but none of the products have yet been placed on the market.

CHEFOO VINEYARDS AND WINE MAKING.

Concerning the wine-making establishment at Chefoo, a wealthy Chinaman, about ten years ago, conceived the idea of cultivating grapes in China for the purpose of an extensive wine trade. Land was bought on the hills near Chefoo and planted to varieties of grapes from all wine-producing countries under the direction of a European expert, who is still in charge. More land is constantly being acquired in the immediate vicinity and planted as soon as bought, but the price of suitable territory has gone up considerably, mainly because other Chinese have gone into the business. Phylloxera is stated to have attacked some of the varieties, but never to a disastrous extent, most of the vines seeming apparently immune.

Each fall the entire crop is taken to the winery on the outskirts of the town, and after production the wine is stored in large casks, constructed in sections in Austria, shipped to Chefoo, and set up in the cellars. Every barrel is plainly marked with the variety of wine it contains, together with the year of its production. The cellars, started four years ago, took two years to complete and are built below the level of the sea. They are lined with concrete, as it was found that they were otherwise being constantly flooded. As the work was commenced ten years ago, there is now a large supply of wine on hand, but it is stated that the first sales are not to be made until 1908 or 1909. The market is to be exclusively the Chinese coast, but the leaders of the enterprise do not say what the prices will be, but considering the amount of the investment, a low price is not to be expected.

COLOMBIA.

MARKET FOR MORE AMERICAN WINE, BEER, AND WHISKY.

Consul Isaac A. Manning, of Cartagena, reports that it appears to him that the manufacturers and exporters of wines and liquors in the United States are entirely overlooking Colombia as a possible market, some trade suggestions for which he presents:

During the six months ending December 31, 1906, there was imported through this port 53,128 kilos (kilo = 2.2 pounds) of wines. Of this amount the United States had but 65 kilos to its credit. During the year ending June 30, 1906, there was imported through Cartagena 66,857 kilos of claret or red wine and 13,053 of white wines. The United States supplied but 1,062 kilos of the former and 438 kilos of the latter. For a wine-producing country like the United States, this seems to indicate a lack of export enterprise. France supplies the bulk of the wines, but their character is not in all cases what it should be, and California could certainly place a good quantity of her wines here if a proper effort were made. The natural route for their shipment would be via the Isthmus of Panama, where two or three steamers a month connect with Cartagena and other Colombian ports.

It is suggested that the way to make sales is through travelers with samples, and to hold a trade once gained by keeping succeeding shipments up to the standard of samples. This trade can be increased as conditions in Colombia improve, but now is the time to make the effort to capture it.

There should be some sale here for American whiskies, although this liquor pays a very high import duty. There is a considerable demand, Scotch whisky being most generally in use, but it would seem that American ryes and bourbons should be able to compete with any other liquors of the world. However, the import of whiskies through this port has of late not been very heavy.

In the matter of beer the United States has done rather better, yet her proportion of the imports of this product has not been as large as it could be. During the year ending June 30, 1906, the total importation of beer amounted to 122,754 kilos, of which 28,636 kilos came from the United States, and during the six months ending December 31, 1906, the importation through this port amounted to 126,849, of which the United States supplied 35,789 kilos.

When the Government placed a high duty on rum, and later made the sale of this article a Government monopoly, the price thereof was steadily advanced to the consumer. Thus it is that beer, if sold in bulk—that is, on draft, imported in barrels for this purpose, or sherry or other wines of this character imported in casks to be retailed—can now be sold at such prices as to compete with the native rum. It is said that beer was formerly imported from the United States in casks and retailed in the bars at five cents a glass, and I have no doubt that this could yet be done. [Importers of wines, liquors, and beers are listed at the Bureau of Manufactures.]

GERMANY.

COURTS DECIDE THAT THE WORD "TOKAY" MUST NOT BE MISAPPLIED.

Consul Thomas H. Norton, of Chemnitz, advises that a German court recently issued an important decision in regard to the use of geographical terms for wines which referred to their quality, but were not in accord with the place of production. The consul cites a a case in point:

A wine merchant imported and sold large amounts of a sweet wine produced in Hungary which he labeled as "Medicinal Tokay." When brought to trial for selling goods under a false name, he acknowledged that the wine did not come from the well-known locality, but claimed that the term "Tokay" was used to designate a class of wines, and was not a simply geographical name indicative of origin. He lost his case and was forced to pay a heavy fine.

The case awakened much discussion among jurists. It appears now, however, that the decision was based upon a principle long since recognized. The Hungarian minister of agriculture has just issued a circular communication stating that in a commercial treaty between Germany and Austria it was expressly stipulated that wine should not be exported into Germany bearing the appellation of "Tokay wine" unless the term was geographically correct. This condition was extended later to Hungary by virtue of the compact between the members of the dual monarchy.

In accordance with this provision the minister now forbids the use of the term "Tokay wine" on exportations from Hungary to Austria or Germany unless the wine actually came from the Tokay vineyards. As the tract of land yielding the genuine Tokay is exceedingly limited in extent, there will probably be a marked diminution in the amount of "Tokay" wine reported in export statistics, although possibly not in the quantity of "Tokay," so-called, consumed in the countries in question.

The subject is of interest in connection with the efforts now made in the United States to insure accuracy and honesty in the designations of food products and beverages.

SPAIN.

DROUGHT AND PHYLLOXERA CURTAIL WINE YIELD IN SEVILLE DISTRICT.

Consul Louis J. Rosenberg advises that the general result of the gathering of the grape in the Spanish Province of Seville and surroundings is unfortunately far worse, as far as quantity is concerned, than at first thought, as the following particulars which he gleaned from the official organ of the Seville Chamber of Commerce will show:

In this Province the havoc wrought by the phylloxera on the one hand and the drought on the other has reduced the crop to one-fifth of the amount that should have been gathered. The greater part of this fifth was produced from American vines, which have also suffered from the phylloxera, but are now slowly recovering. The quality of the wine is good, averaging 1° more of alcohol than last year's crop.

In the Condado Province of Huelva one-third of the full crop has been gathered, and seems to be of good quality. In the Province of Cadiz the crop has been larger than last year, due to the American vines which had been planted. So, too, the crop of San Lucar de Barrameda seems better than the one of last year, but so far nothing definite can be said regarding its quality, nor whether it will serve for preparing the "Manzanilla" wine, which is the specialty of that city.

Prices in Seville are 125 pesetas (silver peseta=17 cents) per 500 kilos (kilo=2.2 pounds), at Huelva 3 pesetas per arroba of 18 kilos, and at San Lucar de Barrameda from 115 to 150 pesetas per 500 kilos.

GERMAN APPLE JUICE.

BOTTLING METHODS PURSUED IN FACTORIES AT MUNICH.

Supplementary to the report from the Mannheim consulate on the German manufacture and sterilization of pure apple juice, Consul-General Thomas Willing Peters, of Munich, sends the following:

There are four plants in the consular district of Munich where pure apple juice is sterilized. The method of manufacture, if it may be so called, is most simple. The apples are, as soon as possible after picking (much importance is given to this), forwarded to the factory.

The first process is absolute cleaning and washing. From the washing tank they are carried by means of an endless chain of buckets to a receptacle where the apples are torn into small particles. These are placed in the hydraulic press. The apple juice when drawn from the press is placed in a large air-tight retort where it is sterilized; it is then allowed to settle for some days, and then filtered, so that the juice is absolutely transparent. The juice is then bottled, a slight amount of carbonic gas is added, and a space of about an inch left in the bottle between the cork and the juice to allow for expansion; the bottles are placed in a car, 6 by 3 by 2½ feet, and this car with its load of bottles is rolled into a retort where the juice is pasteurized, the process taking about four hours, the water in the retort being heated to 150 to 158 degrees Fahrenheit, and absolutely destroying any germ life that might exist. The pure apple juice thus treated contains perhaps ½ per cent of alcohol and is a most delicious drink, retaining all the flavor of pure apple cider.

AGRICULTURAL TOPICS.

FARM PRODUCTS.

CANADA.

THE LARGE YIELDS BRING GOOD PRICES IN NOVA SCOTIA.

The secretary of agriculture for the Province of Nova Scotia has just issued his annual crop review for this Province, which Consul Alfred J. Fleming, of Yarmouth, states is of interest, as a great deal of this produce is exported, much of it to the United States. The consul summarizes:

Despite the unfavorable weather a large crop has been housed in a fairly satisfactory condition, the yields, their value and relation to an average crop having been as follows:

Crop.	Bushels.	Value.	Per cent.	Crop.	Bushels.	Value.	Per cent.
Oats	3,500,000	$1,750,000	100	Potatoes	6,000,000	$2,400,000	110
Wheat	320,000	288,000	95	Other field roots	1,250,000	212,000	95
Barley	175,000	122,000	95	Hay.........tons	700,000	11,900,000	90
Buckwheat	280,000	84,000	99				

This gives, for the crops named, a total value of $16,756,000 for the province. The fruit yield was also good, figuring 100 per cent against 75 per cent last year. In September and October, 1906, there were shipped from Halifax 58,988 bushels, while for this year in the same period 100,386 bushels were shipped, the price ranging from $1.75 to $3.50 per barrel. Spraying is now generally in vogue. Nova Scotia has exported 150,000 to 200,000 bushels of apples during the past season, it being stated that about one-third went to the United States. Several thousand barrels of cider were also exported and realized good prices.

It is estimated that the fruit and grain crop of Nova Scotia for the year 1907 will figure up considerably more than $25,000,000. Adding to this the lumber and fish products, each of which are even greater than the fruit or grain, it is apparent that this province is a great wealth producer. The past season in almost every industrial pursuit was an exceptionably good one, the best in every direction for years.

DECREASE IN FARM CROPS IN ONTARIO.

Consul E. A. Wakefield, of Orillia, states that according to the report of the provincial department of agriculture there was a decrease in every class of Ontario's crops in 1907. The yield of oats was 83,524,000 bushels, or about 25,000,000 less than in 1906, in spite of the fact that the area under cultivation was 200,000 acres greater. The crop of fall wheat was 15,545,491 busheis, or smaller than in the previous season, but in quality quite up to the average. Spring wheat yielded 2,473,651 bushels. Of new fall wheat the acreage will be increased in the Lake Erie and Georgian Bay counties. Other yields in bushels last season were: Barley, 21,718,332; rye, 1,081,706; buckwheat, 2,546,468; beans, 790,269; peas, 7,365,036; potatoes, 20,907,893; corn in ear, 22,247,931, while hay and clover yielded 3,891,863 tons.

ASIATIC TURKEY.

WHEAT IS LEADING ARTICLE OF FOOD—GREAT CROP POSSIBILITIES.

In connection with the present wheat shortage in Asia Minor, which is causing so much distress among the poorer classes, the following report from Consul E. L. Harris, at Smyrna, shows the importance of this great staple food product to the people of that country:

As in many other countries, wheat is used almost exclusively for making bread. Only in some parts of northern Asia Minor bordering on the Black Sea has corn meal been substituted. Wheat is also used extensively throughout the country in preparing homemade noodles and macaroni. More wheat is planted in this country than any other cereal. There are many varieties, popularly known as common, hard, white, and black wheat. The latter quality usually comes from the Paphlagonian Mountain Range in the region of Sinope. The white sort is grown in the vilayet of Smyrna. A kind of wild wheat is also to be found in the neighborhood of Brussa, while the so-called common quality comes from Adabazar.

According to experts, Asia Minor has excellent wheat-producing soils and is soon destined to surpass the Danube countries in annual output. In normal times wheat is an article of export. If the peasants and large landowners would follow a rational plan of farming, supported by some practical system of effective irrigation and artificial manuring, there would never be a famine in this country. The practice of sowing wheat every other year upon arable land will always result in crop uncertainty. The soil of the deltas of those rivers which flow into the Black Sea is especially adapted for wheat growing. So are the valleys of the Hermus and Maeander rivers. A few levees here and there along the river embankments, or a deepening of the channel at overflow points, would prevent the annual inundations which usually prove so destructive to crops. Some of the best qualities of wheat are cultivated on the plains of Erzerum. Among the mountain ranges of northern Asia Minor wheat is seldom grown. Corn and oats are the grains of that section.

The future of Asia Minor as a wheat-growing country is bright. There are still boundless tracts situated miles away from any railway, without even a caravan route as a means of communication, which have never seen a peasant's plow since ancient times. Many a fertile valley in the interior is now practically producing nothing, for the reason that there is no way of marketing the crop. The unsettled condition of the country and frequent brigandage in many districts also retard the progress of agriculture.

CEYLON.

EXPORTS OF COCOANUT OIL, COPRA, DESICCATED COCOANUT, AND TEA.

Consul E. A. Creevey, of Colombo, furnishes the following information concerning the leading agricultural products of Ceylon:

There are a dozen or more factories in Ceylon, under European and native proprietorship, engaged in the manufacture of desiccated cocoanut, which is largely used by confectioners and bakers. The annual output of the product is over 20,000,000 pounds. The following statement, covering the exports of 1906, shows that the United States ranks third among the countries to which this product was exported, the quantities being in pounds: United Kingdom, 11,074,268; Germany, 3,030,153; United States, 2,036,900; Australia, 1,021,083; Belgium, 580,306; Netherlands, 593,500.

Through a chemical process which eliminates the usual cocoanut odor and taste cocoanut oil and copra, so it is said, are being converted into an edible fat for culinary and pastry-cook purposes and for the manufacture of biscuits. An American first exhibited the pure-white, inodorous oil in Colombo, which received a special gold medal. Subsequently he was in the employ of the Ceylon Tea Company, at Negombo, where the manufacture was begun on a commercial scale. The process has been patented, and the samples exhibited and used for domestic purposes are said to be in advance of anything previously produced in Ceylon. What is actually being done in this connection in Europe is hard to discover, although there is reason to believe that Germans, and possibly others, have discovered means of arriving at similar results by new chemical processes.

In 1906 there were 386,000 acres under tea cultivation in Ceylon, yielding 170,572,126 pounds of tea, which sold at an average of 30 cents per pound. A tea "coss" of 30 cents per 100 pounds of tea exported is levied, under special ordinances, which is devoted to the opening up of the world's markets and pushing the trade therein. Of the tea exports of 1906, 108,000,000 pounds went to the United Kingdom, 13,700,000 pounds to Russia, 8,800,000 pounds to New South Wales, 8,200,000 pounds to Germany, 8,000,000 pounds to Victoria, 7,200,000 pounds to Canada, 5,600,000 pounds to the United States, 5,300,000 pounds to China.

CHINA.

GROWING USE OF WHITE POTATOES AND MILK—KOREAN DEVELOPMENT.

Consul Wilbur T. Gracey, of Tsingtau, supplies the following information concerning agriculture in the Far East:

It is reported from I-chou-fu, a purely native city in the interior of the Chinese Province of Shantung, that foreign residents at that place have been trying for many years to introduce the cultivation of white potatoes among the natives, and that the efforts now seem likely to be successful. It is said that many of the native farmers are raising the vegetable and that the restaurants on the streets have discovered that the potato will admirably take the place of the more expensive "shanyüe," or yam (Dioscorea batatas). It is also said that the dairy started under foreign patronage seventeen years ago now sells more milk to Chinese patrons than to foreigners.

It is interesting in this relation to note that hitherto the Chinese have never used fresh milk to any extent, their cows being kept for field purposes only. Condensed milk has, however, become popular, and is now being used to a considerable extent throughout the Empire, and it now seems probable that a demand for fresh milk will soon be created.

It is stated that prominent Japanese propose the establishment of an oriental colonization company, primarily to operate in Korea, by sending well-qualified and organized immigrants to cultivate the barren lands there with the assistance of the proposed Colonial Bank. At the same time the company would cooperate in assisting native Korean farmers. Prince Ito and other influential personages are said to support the enterprise. It is proposed to carry it out for one year.

ITALY.

CAUSES OF RECENT INCREASES IN PRICES OF DENATURED ALCOHOL.

Consul James E. Dunning, of Milan, reports that denaturized alcohol is commonly used in Italy for all ordinary purposes formerly requiring grain alcohol, and adds:

There has recently been a heavy shortage in the Italian markets, and a corresponding advance in price from 4½ to 5 cents per pound at wholesale, or from 11 to 13 or 15 cents per quart retail. The short supply is said by the principal manufacturers to be due to the lack of residue from the last beet-sugar season and from the last wine crop, and to the extraordinarily high price of grains. A cause not mentioned by the various experts who have been dealing with the question, but which appears clear to this consulate, is the recent general strike in north Italy, during which the lack of gas for cooking was made up by the use of alcohol.

In the Milan market during the strike, notwithstanding the price of alcohol advanced rapidly during a week or more, the supply became completely exhausted. It seems more probable that this extra demand has had more to do with the present shortage than anything else, and this view appears to be borne out by the statement, just issued by an authoritative trade journal, that crop reports indicate a good supply of material for distillation and an early reduction in the price to the normal retail figure of 11 cents per quart.

GERMANY.

EXCELLENT HOP YIELD DUE TO GOOD SEASON.

Consul George Nicolas Ifft, of Annaberg, quotes the Imperial Bureau of Statistics as to the 1907 hop crop of Germany:

The total is placed at 531,634 hundredweight, harvested from a total of 94,593 acres of hop fields. This is an average of a little better than 5.6 hundredweight per acre. The 1907 crop as a whole is 68,782 hundredweight greater than that of 1906, and the per acre average about 80 pounds better, but it is 112,217 hundredweight less than the 1905 crop, and the per acre average is nearly 100 pounds less. Nearly one-half the German hop crop is grown in the Kingdom of Bavaria. The fine autumn was most favorable for the maturing of the hops, and the weather remained good until the entire crop was picked. Excepting the year 1905 the yield was best in the last 5 years.

The Austro-Hungarian crop is estimated at about 325,000 hundredweight, and that of all other countries at 1,090,000 hundredweight. The total 1907 hop crop of the world is thus about 1,947,000 hundredweight. This, according to the best figures obtainable, is slightly in excess of the average annual consumption during recent years.

OLIVE CULTURE.

TUNIS.

WHAT AN ORCHARD COSTS AND YIELDS—ANTIQUITY OF THE INDUSTRY.

Consular Agent A. J. Proux, of Tunis, has prepared the following review of olive growing in Tunisia:

The culture of the olive tree in Tunisia dates from the time of the Romans—somewhere about the Christian era. It was prosperous until the sixth invasion of the Arabs (693-694 A. D.), when a great number of plantations were destroyed. In the year 1048 A. D. a new invasion of the Arabs took place and their tribes, of nomadic instincts, destroyed systematically all the elements of sedentary life. The olive trees of the district of Sfax were entirely destroyed. No efforts were made until 1800 to 1810 to start fresh plantations.

The number of olive trees in Tunis is estimated at 11,222,525. During the last ten years about 200,000 acres have been sold by the Government at 80 American cents per acre, with the obligation for the purchaser to plant olive trees within four years. This will represent in a near future an increase of 1,000,000 productive olive trees.

MODE OF PLANTING, VARIETIES, AND TAXATION.

The plantations are made with splits from old trees 8 to 10 inches long and 4 inches thick, to which bark is still adhering. It is from this bark that the branches spring. The part of the trunk which has grown under the earth is reputed to be the best, but practically no attention is paid to this point. The prices for splits average 24 francs ($4.61) per hundred. No particular care seems to be required, and they can remain without risk as long as fifteen to twenty days in the burning sun of the south.

The soil in the most important olive districts is light and of a sandy reddish tint, due to presence of oxide of iron, with a rocky subsoil. It is poor in appearance, which is confirmed by analysis. The earth proves to be abundant in potash and deficient in humus and azotic and phosphoric acids. For some reasons yet unexplained scientifically this soil when favored with a sufficient rainfall gives as good results as the most fertile land. Registered rainfall in these districts ranges from 12 to 16 inches yearly. Earth of yellowish color is considered poor for olive trees.

In Sfax, the most important and progressive district for olive-tree planting, eating olives are of two kinds. "Mellahi," which is picked green for salting, is a round fruit which can attain the size of a small apricot; and "nab," which is oval in shape and smaller than the former. These two varieties are planted in a small proportion in each orchard, the remainder being of the "chemlali" kind. The latter is a much smaller fruit, grown specially for the mill, and grows over the whole of North Africa. A variety of the "nab" of a reddish tint is grown in small quantities.

Olive trees are subject to a tax varying from 3 to 9 American cents each, which is not applied until the tree is 20 years old. Wild trees grafted are tax free for ten years.

Oil not intended for export pays a duty of 4 francs per 100 kilos (3 American cents per gallon) when entering a locality of more than 500 inhabitants. Oil exported pays a general export duty of 6 francs per 100 kilos (4½ American cents per gallon). An extra duty of 1 franc is paid for oil leaving through the port of Sfax; 2½ francs if through the port of Sousa (or ¾ of a cent and 1¾ cents, respectively, per gallon). The export duty on olive-oil foots is 1½ francs per 100 kilos.

PLANTING EXPENSES AND PRODUCTION.

The results of olive-tree planting in the district of Sfax may be deduced from the following figures. They are calculated for an orchard of 10 hectares (24.710 acres), as this corresponds to the extent of ground one native can work with the use of a camel. The custom is to make a contract of partnership with a native. The colonist supplies the capital and the implements that are required. The contract is usually canceled at the end of eight years, and the parties share in halves after taking the amount of the advances made by the colonist. However, no interest is charged to the native. The cost is figured as follows:

Purchase price of 10 hectares	$19.30
Cost of camel	38.60
Cost of implements and splits	9.65
Compound interest at 6 per cent, 8 years, on foregoing items	46.51
	114.06
Share of the native	48.25
Share of the colonist	65.81

Ten hectares planted in square fashion every 24 meters (26¼ yards) represent 174 olive trees. The colonist will therefore possess after eight years, 87 trees at a cost of $65.81, or $0.75 per tree. The official figures make out the cost at $0.58, the difference being that only simple interest is figured to reach the latter average cost.

Except in the first years of production, when the expenses are somewhat lower the cost of keeping an orchard of 87 trees is as follows: Plowing, twenty days, $8.65; cutting weeds, fifteen days, $6.48; fruit picking, 100 kilos, $13.44; carting fruit to mill, $9.60; a total of $38.17 or 45 cents per tree. The cost of pruning is repaid by the sale of wood.

These expenses may be considered as a maximum, and most planters keep theirs much below. A few rich proprietors use manure (one camel load every four or five years buried at the foot of the tree). This method insures better results.

The average production is insignificant at ten years, amounting to not quite a bushel of olives, while at fifteen years the yield is 30 liters (0.852 bushel) and at twenty years 45 liters (1.278 bushels). In oil the yield at fifteen years gives 6.90 liters (1.82 gallons); at twenty years, 10.35 liters (2.73 gallons).

An orchard of 5 hectares (12½ acres) and 87 trees will give an average at fifteen years of $36.60; at twenty years of $66.85; for an investment of $65.48. The value of an olive tree at ten years is $3 to $3.50; at fifteen years $7 to $8, and at twenty years $9 to $10; at the latter age the value of the orchard of 87 trees being $835.

CRUDE OIL MILLS.

Two-thirds of the oil produced comes from Arab mills, where the processes are most rudimentary. Olives are picked between November and February, according to the species grown. Branches are struck with long poles (a practice to be discouraged, as it is prejudicial to the welfare of the tree), or else the fruit is picked by scraping the branches with the fingers, the latter being provided with some kind of claws. The olives are lodged into a dark store and each layer of olives is covered by a layer of salt. The fruit remains in this state for three or four months, losing gradually its water, which is allowed to run into a reservoir when the small quantities of oil that escape are retrieved. Unfortunately the fermentation resulting from these practices gives a rancidity to the oil that renders it unpalatable to all except the natives. The mill is a mere roller turning inside a cylindrical basin, animal power only being employed. The fruit and stone being reduced to a pulp, the mixture is spread over some flat pieces of matting, round in shape, which are made out of esparto grass. These are put under a wooden press and a mixture of oil and water is extracted. As the oil rises to the surface it is put into earthen jars. The foots give an inferior quality of oil. The pulp when almost dry is used as combustible.

THE MODERN PROCESS.

There are about 150 French or foreign mills, of which only 50 are worked by steam, owing to the lack of fresh water in many districts. The output varies, but the following figures may be considered as a good average: Five hundred kilos (1,102 pounds) of olives, for which $9.22 was paid at the mill, gave 80 kilos (176.32 pounds) of oil and 150 kilos (330 pounds) of foots. The oil was sold for $11.06. Foots are treated by sulphur of carbon, and yield 8 to 10 per cent in oil. The sulphur is separated from the oil by distillation. Oil produced in this way is sought by soap manufacturers. The average value is $9.60 per 100 kilos (220 pounds).

The largest concern here can turn out daily 19,000 kilos of olive oil and its sulphur of carbon machinery could deal yearly with 30,000 tons of foots which would produce 3,000,000 kilos of oil. The soap manufactory attached to the concern turns out 800,000 kilos (1,763,000 pounds) yearly.

The waste material from oil mills is carried to ditches or ponds. Some small quantities of oil find their way to the surface and are drained off. The remainder is gradually absorbed by the earth.

AUSTRALIA.

CONFINED TO TWO STATES, WHERE THEY ARE GROWN FOR OIL.

In regard to the olive industry in Australia, Consul-General John P. Bray writes from Melbourne as follows:

Olives are only grown in two States in Australia—Victoria and South Australia. The amount produced in the former State is small, the quantity of olives gathered for the year 1906–7 having been 1,480 hundredweight, from which 2,166 gallons of oil were produced. The olive production for the previous year was 432 hundredweight, against 233 hundredweight in 1904–5.

In the State of South Australia there are 64,000 trees, and during 1906 14,750 gallons of oil were produced. The price received was about $40 per ton and the cost of picking was from $13.38 to $19.46 per ton, according to the crop and size of trees, the average daily wages earned by the pickers, who are boys and women, being from 66 to 85 cents. Only "Virgin" or "First" oil is made, and this is worth about $2.31 to $2.43 per gallon wholesale. Fifteen to twenty gallons of oil per ton is considered a good yield, according to the variety. It is difficult to give the age of the oldest orchards in South Australia, as they have been planted at different times over lengthy periods of years, but it is believed there are many olive trees in the State from 40 to 50 years of age. Not a great deal of planting is going on, although the number of trees increases steadily. The principal impediments are that trees are slow coming into bearing, the labor of picking is considerable, and the wages being low, other industries returning larger incomes are preferred.

Practically nothing is done in this State in pickling, and relatively little use is made of the waste material after the oil has been extracted. The reason for this is that there is not a large demand for oil cake for feeding purposes, and such little demand as exists is supplied by copra cake, which is sold at such a low price that olive-oil cake can not compete. Furthermore, the industry is not of sufficient magnitude to warrant the establishment of special works for the utilization of some of the waste in the manufacture of soap, etc.

ALGERIA.

MILLIONS OF TREES—AVERAGE YIELD AND PRICES.

Consul James Johnston writes from Algiers that it is roughly estimated that there are 6,500,000 cultivated olive trees in the three provinces of Algeria, the distribution and culture being as follows:

In Algiers there are 1,900,000, in Oran 1,700,000, and in Constantine 2,900,000 trees. It is impossible to say what the acreage is, as the trees spring up wild and are grafted where they stand. In some regions they are so close as to touch overhead, while in other regions they are hundreds of feet apart.

The average yield of oil for the district of St. Denis du Sig (irrigated land) is 12 to 15 per cent of weight crushed, whereas in the districts of Mascara and Kabylia it is 20 to 22 per cent. The average production of fruit per tree is 80 to 100 pounds. No olives are pickled green (except for the growers' own uses), and there are imports of such from Spain.

The price of olives delivered at mill is from $1.93 to $2.31 per quintal (220 pounds) and the average wholesale price of oil at the mill is from $17.37 to $19.30 per 100 kilos (220 pounds). There is no established daily wage, the natives picking their own olives and in many cases pressing them by their primitive methods. As to the age of orchards, these have existed from time immemorial, and some of the trees are credited with being over 400 years old.

It is estimated that there are over 5,000,000 wild olive trees throughout the country. The grafting of these is being carried out systematically under the auspices of the government.

SEED PRODUCTS.

UNITED KINGDOM.

IMPORTATIONS OF COTTON SEED AT HULL—EXTENT OF TRADE.

Consul Walter C. Hamm has secured the following facts of interest concerning the handling of cotton seed at Hull, the British center of this trade and industry, both as to importations and crushing:

No South American cotton seed, sound or unsound, so far as diligent inquiry can discover, has been imported direct into Hull. It is probable that some may reach here eventually, as South America sends some cotton seed to the United Kingdom; but, if so, it arrives at other ports, is transshipped to Hull by rail, and is not classed here as South American seed. South American cotton seed is also exported to the Continent, and possibly some of it is transshipped to Hull via Hamburg, as a moderate quantity of seed arrives here annually from that port. The quantity of seed exported from the different countries of South America to the United Kingdom in 1905 and 1906, with the value, was as follows:

Country.	1905.		1906.	
	Tons.	Value.	Tons.	Value.
Brazil	35,092	$807,890	28,116	$740,750
Peru	3,013	81,245	3,334	99,885
Chile	622	16,735	1,328	41,790
Colombia	129	3,535	193	6,810
Total	38,856	909,405	32,971	889,235

The imports of cotton seed into Hull during 1906 were 291,142 tons, or larger than in any year since 1903, when the total reached 299,189 tons. Bombay seed was more in evidence than in 1905, and prices ruled fairly high for this class of seed, varying from $30 per ton to $38 toward the end of the year. Egyptian and Turkish seed varied considerably. When the Indian cotton crop is a good one, as it is reported to be this year, enlarged supplies are looked for from that direction, more especially as cake made from India seed is popular among a certain class of farmers on account of the price, which is less than that made from Egyptian seed.

AMOUNT IMPORTED BY ENGLAND AND SCOTLAND.

The imports of cotton seed into England and Scotland during 1905 and 1906, with the value, classified according to the countries from which they came, are given in the following table:

Country.	1905.		1906.	
	Tons.	Value.	Tons.	Value.
Egypt	385,615	$10,574,000	362,592	$11,666,385
India	123,342	2,862,860	202,790	5,322,175
South America	38,856	909,405	32,971	889,235
Turkey	9,198	199,690	14,084	357,630
United States	4,132	101,895	3,007	80,315
Africa	553	12,545	2,881	57,860
Total	561,696	14,660,395	617,825	18,373,600

Of last year's total imports Hull's share in value was $8,863,210; London's, $2,970,070; Liverpool's, $2,254,935; Bristol's, $1,841,890; while those of Leith, Scotland, amounted to $746,965.

The imports of Hull for the ten months ending October 31, 1907, were 309,901 tons, 158,430 of which was Egyptian, against 245,813 tons, of which 136,291 was Egyptian for the same period in 1906. During the same ten months of 1907 the total imports of cotton seed into the United Kingdom were about 600,000 tons.

Hull is by far the largest importing center of cotton seed in the United Kingdom, nearly one-half arriving at this port. It is here that the seed-crushing industry was first started in this country, and this city still holds its place as the largest seed-importing and seed-crushing center in Great Britain. The seed-crushing firms have modernized their plants and developed the business to a great extent during the last twelve years.

Egyptian cotton seed arrives from September to April from Port Alexandria. Indian cotton seed arrives here in moderate quantities all the year round, but the bulk comes from May to October, the shipping ports being Bombay and Karachi. Turkish seed arrives occasionally only in very small quantities from Port Mersina and Smyrna.

Cotton seed is exported from the United States to the United Kingdom, but only in small quantities. The imports of American cotton seed into Great Britain during 1906 totaled 3,007 tons, valued at $80,315, against 4,132 tons, valued at $101,895, in 1905. Seed importing firms in Hull would willingly do business with American seed-exporting firms if prices and other conditions are satisfactory, and they invite correspondence to that end. [A list of the seed importing firms in Hull is placed on record at the Bureau of Manufactures.]

SHIPPING DETAILS.

The largest seed importing firm in Hull imported cotton seed from New Orleans a few years ago, but during the last four or five years they have not made any imports from the United States. The reasons they give are that the seed has not been up to the standard, with the exception of last year, which was an exceptional year, and that they only dealt with one firm, and had considerable difficulty in settling accounts. The claim they make is that more seed was charged for than actually arrived, and no satisfactory arrangements could be made without going to law, the latter course involving too much time and expense. The following statement from this firm should be interesting to American cotton-seed growers and exporters:

> American delinted cotton seed is an article in which a large business could be done in Hull, provided that in price it could compete with Egyptian cotton seed. The seed compares favorably with the Egyptian in normal years. The essential points in seed are that it should be well delinted, guaranteed not to contain more than 7½ per cent brown or damaged, and that great care be taken in shipping that the seed be not stowed near corn or anything that is likely to cause heat or sweat. Some American shippers have wished to sell on the basis of fair average quality of the season, which, however, is quite impracticable, as there are no reliable means of ascertaining what this is, and the shipments are so irregular that there is no means of making a reliable standard.
>
> Egyptian seed is sold on the basis of fair average quality of the season's shipments at time and place of shipment, and as there are shipments from Alexandria nearly every week, monthly standards are made up, which work sat-

isfactorily. Business in American delinted cotton seed is also somewhat handicapped by the fact that the business is done here in cakes and oil on the basis of pure Egyptian or pure Bombay, consequently the products of American delinted seed have to be sold as a special article, which interferes with the free manipulation on a market, and also is not everybody's seed. Should the trade grow and become a considerable factor on our market, many of these drawbacks would no doubt vanish.

Prices for seed during 1907 fluctuated greatly. During November the price ranged between $28 and $35 per ton.

GERMANY.

POSSIBLE MARKET FOR COTTON-SEED MEAL IN SAXONY.

Consul William C. Teichmann, in the following report from Eibenstock, tells of an opening that has developed in Saxony for American cotton-seed meal for stock feeding:

Agricultural conditions heretofore prevailing in this German district did not appear favorable to the sale of American cotton-seed products. The mountainous character of this section of Saxony hinders its agricultural development, which is confined to cultivation of rye, oats, and potatoes wherever possible, and to limited truck gardening, although even these cereals and vegetables are insufficiently raised to supply the demand. Cattle raising and dairying are only carried on to a very limited degree and by primitive and economical methods. For cattle feed poppy, cocoanut, rape, and palm cakes are used to some extent wherever the ordinary local agricultural farm supplies do not suffice.

No cotton-seed products have thus far been introduced in this district, and the only American cattle-food articles sold here are "Maizena Food," a corn product which has gained considerable foothold, and American corn bran, which is much favored and finds a good market here. Agencies in Hamburg and Magdeburg principally supply this demand. The poor crops of last year have raised the price of cattle food materially, so as to render it worth while to look over this district for the sale of cotton-seed oil cake and meal. I believe that communications opened with the principal dealer in cattle food in Eibenstock [name filed at Bureau of Manufactures] would lead to practical results, as cattle-food supplies must now be augmented by importations.

SOUTH AFRICA.

LOWER PRICES FOR LINSEED PRODUCTS WOULD INCREASE DEMAND.

In response to an inquiry from Ohio, Consul-General Julius G. Lay, of Cape Town, writes as follows in reference to the demand in South Africa for linseed oil and cake:

Those interested in dairying and stock feeding state that a certain amount of linseed-oil cake is being used in this country, and that the demand would increase very considerably if the price at which it can be supplied to dairymen could be reduced. It is being imported principally from India by one or two Cape Town concerns, and the landed cost is said to be about $40 per ton. It is retailed by one Cape Town firm for about $73 per ton, which price is prohibitive, and some competition is needed to compel retailers to sell on a reasonable margin. The customs duty on linseed-oil cake and meal entering British South Africa is 48 cents per 100 pounds, with a rebate of 4 cents per 100 pounds to that of British origin. If quotations are made to the manufacturers of milk products for oil cake landed at Cape Town, inclusive of duty, freight, insurance, etc., orders are more likely to result than by quoting the price f. o. b. New York. In quoting prices to merchants it is different, as they are accustomed to importing various kinds of merchandise. [The names of manufacturers of dairy products in Cape Colony and of Cape Town merchants who are thought most likely to be interested in handling oil cake and meal may be secured from the Bureau of Manufactures.]

TOBACCO INDUSTRY.

GERMANY.

THE CULTURE OF AND IMPORT DUES ON TOBACCO IN ALSACE-LORRAINE.

An official German report having just appeared relative to the tobacco industry in Alsace-Lorraine for 1906 and to the receipts on imports for the fiscal year ended June 30, 1907, Consul William J. Pike, of Kehl, has compiled the following review therefrom:

The number of tobacco planters in 431 districts under cultivation reached the total of 8,044 in 1906, as against 8,154 in 439 districts in the preceding year. In 1906, 4,023 planters had their tobacco taxed by weight, while the others were taxed by the surface measurement of their plantations; 3,251 acres were under tobacco cultivation in 1906, against 3,173 acres in 1905.

The increase of the tobacco culture in Alsace-Lorraine has resulted from the good prices for tobacco in the previous year; in 1905 the average price per 220 pounds was $12.47, and in 1904 but $10.25. The members of the Alsace-Lorraine Tobacco Union procure their seeds, together with a special fertilizer called "Martellin," from the Imperial Tobacco Manufactory of Strassburg, and the latter purchases the greater part of the tobacco grown from its seeds and pays up to $4.76 per 220 pounds more for the tobacco grown according to its instructions than for other tobacco. In the year 1906, 8,214,793 pounds of tobacco in ripe and dry condition was grown, against 8,060,666 pounds in 1905. In general the tobacco was of such good quality that the prices paid were higher than had been reached since 1879, the average price per 220 pounds being $13.40.

For the tobacco harvested in the districts of Hagenau and Schlettstadt the following prices were paid for 220 pounds:

District.	First quality.		Second quality.	
	1906	1905	1906	1905
Hagenau	$10.71-$19.99	$9.99-$15.23	$13.09-$16.66	$11.42-$14.76
Schlettstadt	14.28- 16.18	12.85- 13.82	12.18- 14.28	11.42- 11.90

The third quality in Schlettstadt brought $6.18 in 1906 against $2.85 the previous year. The quantity of tobacco grown in the Saarburg district amounted to 15,124 pounds, 9,374 of which was sold to the Imperial Tobacco Manufactory at the rate of $19.04 and $11.42

per 220 pounds for the first and second qualities. The prices in the preceding year were $16.66 and $15.71. The Imperial Tobacco Manufactory bought 2,653,796 pounds from the different districts, Hagenau furnishing 317,346, Saarburg 9,374, Schlettstadt 2,065,558, and Strassburg 261,518.

During the fiscal year ended June 30, 1907, the amount paid in taxes on foreign raw tobacco and the manufacture of tobacco amounted to $105,786, as against $413,465 in 1906.

SOUTH AFRICA.

DECREASED AMERICAN TRADE, CAUSED BY INCREASE IN THE TARIFF.

In replying to an inquiry made by a Virginia correspondent, Consul Edwin S. Cunningham, of Durban, furnishes the following information concerning the use of American tobacco in South Africa:

The imports of American tobacco at Durban in 1906, for consumption in the colony of Natal, was as follows: Unstemmed, 5,700 pounds; stemmed, 2,800 pounds; entered at Durban but sent direct from ship to other South African colonies, 4,746 pounds. The foregoing was made up chiefly of Kentucky and Missouri leaf.

The factories in Natal use at present 3,000 to 4,000 pounds of American leaf per annum, as compared with 30,000 to 40,000 pounds per annum before the present tariff became effective. The factories of the United Tobacco Works are situated in Cape Town and Johannesburg. These use large quantities of Virginia leaf for cigarettes and smoking tobacco. Very little, if any, American tobacco is used in Natal for these purposes.

Since the duty has been fixed at 73 cents per pound on unmanufactured and 97 cents per pound on manufactured tobacco the manufacture of chewing tobacco has been practically suspended in South Africa.

Notwithstanding the increased duty, it is stated that if systematically handled much could be done in the manufacture of snuff from Missouri leaf for sale to the natives.

The tendency in all South Africa is to use the produce of South Africa, chiefly Transvaal and Cape Colony leaf, and to mix as little imported leaf therewith as possible. [A list of tobacco manufacturers in Durban is on file in the Bureau of Manufactures.]

BRITISH INDIA.

TWO COMPANIES ARE GREATLY EXTENDING THEIR WORKS.

Consul-General William H. Michael, of Calcutta, contributes the following notes on the developing tobacco industry in India:

The Peninsular Tobacco Company, with factories at Karachi, has, it is officially reported, also decided to erect factories at Monghyr, where the land necessary for the purpose has already been acquired, and the company's agents have begun to collect tobacco leaf from far and wide. The new industry will, it is anticipated, increase the importance of Monghyr as a manufacturing and trading center. There will be a considerable addition to the demand for labor and cultivators will get better prices for their crops and be stimulated to improve its quality, as the company only seeks the better forms of the leaf.

The British-America Tobacco Company, doing business in India, has acquired a fine property about 200 miles north of Calcutta and is rapidly enlarging its cigar and cigarette business.

HERBS AND SPICES.

CHINA.

GINSENG TRADE CONTROLLED BY CHINESE MERCHANTS IN HONGKONG.

In answer to a number of American inquiries, Frederick D. Cloud, student interpreter at the Shanghai consulate-general, furnishes the following information concerning the conditions surrounding the ginseng trade in China:

Many of the Chinese believe that when all other remedies fail, and death is at hand, ginseng has the power to bring back health and longevity; hence, when they feel the need of it they will pay fabulous prices for certain kinds of roots. A root to be really valuable as a commodity must come from the mountains of Kirin or be reputed to have come from there. It must be bifurcated, so as to resemble as much as possible the human form, and be semitransparent, dry, and flinty. Of course the larger the root the better, and as it is sold by weight it is not very uncommon for a good specimen to bring as much as $100 an ounce. The value of such a root is in its shape, its texture, the manner in which it has been cured, and the region whence it came. But it must be borne in mind that, out of a great quantity of roots, only a very few of the kind described can be obtained, so that the average price of ginseng is even greatly less than $100 per pound.

Native or wild ginseng always commands a higher price than the cultivated root and that from the United States is mostly of the cultivated variety. The best price in Shanghai for American ginseng at the present time seems to be $4 to $5 per pound.

Almost the whole ginseng trade of China is controlled by a group of Chinese merchants whose headquarters are in Hongkong. They fix the prices, both wholesale and retail, and regulate from year to year the amount of ginseng imported into China. In this way a practical monopoly of the trade is obtained. This is why it is so difficult for American growers of ginseng to deal directly with Chinese merchants, and it is this feature of the trade that makes it more profitable as a rule to the small grower in the United States to sell his ginseng to some local commission house rather than to ship it to China himself.

While the ginseng trade as far as American producers are concerned may still continue to be valuable, in a moderate way, it does not offer the fabulous profits which have, from time to time, been reported by certain interests, and as it is almost impossible for the small producer in the United States to sell his output direct to the Chinese merchants, I inclose a list of responsible foreign merchants in Shanghai who are more or less interested in ginseng. [List on file in the Bureau of Manufactures.]

ASIATIC TURKEY.

ANISEED CULTURAL AND SELLING METHODS IN ASIA MINOR.

Consul E. L. Harris, of Smyrna, contributes the following account of the growth and traffic in aniseed in Asia Minor:

Anise is a species of parsley with large, sweet-scented seeds. It is extensively cultivated throughout the Empire, but especially in this consular district. The village of Tchesme, with the neighboring regions, produces large quantities of aniseed of a fine quality. In the trade it is considered as ranking next to the Spanish article.

Formerly not more than 600 to 700 acres were given up to the cultivation of this plant, but since the destruction of grapevines by phylloxera this area has increased to over 1,000 acres. The annual production of aniseed is at present about 600,000 pounds, against 350,000 pounds in 1903. Sowing takes place generally in February and the seed is gathered in June. Exportations begin in July and continue till September. Seed is seldom to be had from the farmers in the course of the year, as merchants secure the whole crop immediately after the harvest.

The Tchesme aniseed is shipped principally to Constantinople, Smyrna, and several large towns of the interior. It also finds a market in Bulgaria, Egypt, and Greece, with France as an occasional buyer when the Spanish crop is small. Aniseed is used in this country principally in the making of "raki," a kind of alcoholic drink very popular throughout the Levant, and which calls for about 7 per cent of seed. It is also used in Europe in the manufacture of absinthe and anisette.

JAMAICA.

BANANA CULTURE CAUSES LESS ATTENTION TO GINGER GROWING.

Special Agent Arthur B. Butman, upon the request of New York chemists, furnishes the following additional information on the culture of ginger in Jamaica:

The requirements for the growth of the plant are a cool, equable temperature, a regular rainfall, an elevation of over 2,000 feet, and a rich clay loam soil. It is claimed that these conditions are found in the central districts of the island, the northern central, and, to some extent, the northern parishes. I believe no extensive individual acreage of the plant at present exists on the island, its cultivation being almost exclusively confined to settlers who possess or rent land in small areas.

Since American capitalists have given such a boom to banana growing in Jamaica, many of these small settlers, it is said, have turned their energies in this direction also, hence the falling off in the ginger exports. Ginger is usually planted between April and June, and the crop is ready for picking between the following December and March. A Jamaican authority on the subject states that "with seasonable weather and fair attention bestowed on the cultivation, the grower may calculate upon an average of 2,000 pounds of cured ginger per acre."

LIVE STOCK.

CANADA.

SUBSTANTIAL GROWTH IN EXPORTATIONS TO THE UNITED STATES.

According to Consul James H. Worman, of Three Rivers, it is noteworthy how the cattle and other animal exports from Canada to the United States have increased during the first nine months of 1907. He quotes the following statistics which show this trade advance:

In 1903, when the interest in horned cattle was very marked in the Northwest, Canada exported to the United States over 10,000 head (4,739 1 year old or less and 5,858 over 1 year old), with a value of $319,918. In 1904 such exports, because of the financial depression, declined to $133,292 for 3,953 head. They slightly advanced in 1905, to 3,865 head, valued at $164,449, and moderately increased in 1906, so as to reach almost half the quantity of 1903, viz, 4,765 head, priced at $208,874, while for 1907, the number will equal that for 1903, and their value will reach $600,000. From January to September 30 the 8,190 head were valued at $479,895.

The sheep exports from Canada to the United States this year will also exceed the figures of 1903, when their value was $964,302, declining in 1904 to $797,202 and in 1905 to $668,833, but in 1906 they went up to $975,777 and in 1907 amounted during the first nine months to $1,073,063.

The total exports of living animals from Canada to the United States, which in 1903 reached the phenomenal amount of $2,445,426, in 1907 reached $2,370,579 for the first nine months and will amount to about $3,000,000 for the twelve months. The cattlemen of Ontario are planning a market at a point close to the border line of the United States, not far from Niagara Falls, so as to insure the attendance of American buyers of cattle and thus accelerate the interest of American breeders and cattlemen in Canadian cattle.

A SUCCESSFUL FOX FARM.

Consul George N. West, of Sydney, reports that two small "fox farms" which were in operation in that part of Nova Scotia for several years, have been abandoned, but instances another successful one:

It is credibly stated that a very flourishing fox farm is being carried on in Prince County, Prince Edward Island; that the parties conducting the same have met with great success, and each year put on the market large numbers of skins of various kinds. Their success, it is said, is largely due to the fact that they have their farm divided off into sections, each section under the care of one person, no one else being allowed to approach it. In this way the animals become accustomed to the person in charge and grow very tame, but if a stranger approaches they will hide and not be seen for a day or two.

As most of the skins from the farms first referred to were invoiced and certified at this consulate for shipment to the United States, it can be stated that many of them in their green condition were valued at $200 to $250 each, one or two reaching $450.

BAVARIA.

NUMEROUS BREEDING ASSOCIATIONS UNDER GOVERNMENT SUPERVISION.

Consul William Bardel, of Bamberg, writes that commendable attention is being given to cattle breeding by the several States forming the German Empire. With reference to the Kingdom of Bavaria he continues as follows:

There are in the Kingdom, and under the supervision of the Government, 20 associations, with a membership of over 43,000, whose aim is to improve and preserve domestic cattle breeding, particularly of the more valuable and fine old stock. It is also the object of these associations to encourage trade in cattle for consumption and for breeding purposes. Each association has its own constitution, which, however, agrees in the main with those of all the others. The business is conducted by an executive committee which again delegates one of its members to be the outside representative, while the technical supervision of each organization rests in the hands of an expert inspector of cattle who, in order to be eligible, must be a graduate veterinary surgeon, and although he is elected by the association his appointment has to be confirmed by the Government, which pays his salary and traveling expenses. The duties of these inspectors are to visit the rural districts and to examine the cattle to see that only sound stock is being admitted for breeding purposes, as well as to look after sanitary matters in the stables. In winter they have to travel from district to district, lecturing before the farmers as to the proper mode of breeding and caring for cattle and reporting immediately to the Government about any signs of disease that they may discover.

GREAT BRITAIN.

GOVERNMENT PROTECTION AGAINST GLANDERS.

Consul Edward B. Walker, of Burslem, England, writes that under an order of the Board of Agriculture and Fisheries, which came into force January 1, 1908, no horse, ass, or mule brought to Great Britain from any other country, except Ireland, the Channel Islands, or the Isle of Man, is to be landed in Great Britain unless accompanied by a certificate of a veterinary surgeon to the effect that he examined the animal immediately before it was embarked, or while it was on board the vessel, and that he found the animal did not show symptoms of glanders or farcy.

TRANSPORTATION.

WORLD'S RAILWAY SYSTEMS.

ITALY.

COMMISSION PROPOSED FOR MANAGEMENT OF GOVERNMENT LINES.

Consul James E. Dunning, of Milan, transmits a report covering the history of Italian railways, from which the following information has been gleaned:

After more than two years of a system of Government ownership, where the State endeavored to manage the railways of Italy through a general official named by the minister of public labor, the Government now proposes to place the direction of the lines in the hands of a special commission. This plan, which awaits the approval of the next Parliament, contemplates the appointment of eight members, three of whom are to be Government officers of high rank, while the other five are to be private citizens. The director-general, the present head of the railroad administration under the ministry, will sit with the commission as a ninth member, but without the right to vote. All the members, as well as the director-general, will be chosen by the minister of public labor, who will also name the presiding officer. Members will serve for six years, and will not be eligible for reappointment. Their compensation is to be fixed "in full proportion to the dignity and importance of their station and duties," and they are to rank in official registers as councilors of state. They will have supervision of the railroad management, but the direct inspection of the actual operation of the lines will remain in the hands of the director-general, thus giving him a strong measure of control over the personnel. The lines, while under the direction of the commission, will be under the direct supervision of the minister of labor.

THE STATE RAILWAYS.

The State railways of Italy have a mileage of about 7,300 miles, an increase of 2,600 miles since 1885. The lines are roughly divided as follows: (1) The Mediterranean Line, (2) the Adriatic Line, (3) the Sicilian lines, (4) the Southern Line, which, though owned by the Government, is still operated by a private company, but is, in effect, a part and continuation of the Adriatic Line.

(1) The Mediterranean Line runs from Modane, just over the French border, beyond Turin, to Reggio, traversing the west coast of the Peninsula. It is a little over 1,000 miles in length, reckoning the distance from Modane to Reggio, passes through Susa, near the border, Turin, Alessandria, Genoa, Pisa, Leghorn, Civitavecchia, Rome, Naples, Metaponto, and Reggio, where it terminates opposite Messina. At Ventimiglia the Mediterranean connects with the Paris, Lyon and Mediterranean Road at Bellinzona, with the St. Gotthard Line from Milan to Lucerne; at Arona, near the foot of Lake Maggiore, with the new Simplon express line from Milan to Paris, and at Milan with the great trains de luxe which run from

there to all the capitals of the Continent. The network of lines between Turin and Milan belong to the Mediterranean group.

(2) The Adriatic line runs from Chiasso, the gateway to the St. Gotthard route through Switzerland, to the termini of two great arms, one of which is at Venice and the other at Rimini, and passes through Milan, its actual head, Piacenza, Parma, Modena, and Bologna. At Rimini State control at present ends, but the remainder of the road to Brindisi is an actual continuation of the main line, and was formerly an integral part of it. From Chiasso to Brindisi the distance is about 700 miles. The line from Milan to Venice, forming the upper of the two arms of the Adriatic, is about 165 miles in direct length. It passes through Brescia, Verona, Vicenza, and Padua. From Venice north to the Austrian border, at Pontebba, there is a branch of the Adriatic 125 miles in length. It is over the Venice arm of the Adriatic that the northern expresses out of Milan reach Vienna and Budapest, and go on to points in eastern Russia. Another important branch of the Adriatic lines, though now under private management, runs from Castellamare, on the east coast, to Rome, 150 miles.

(3) The Sicilian roads connect Messina, Catania, Syracuse, Palermo, and Trapani, forming a belt about the island. There are also about 200 miles of unimportant railroads in Sardinia not taken into account in this report.

(4) The Meredionali is the southern section of the Adriatic, already mentioned, and runs from Bologna to Rimini, around the shore of the Gulf of Taranto, to Gallipoli.

EXPENDITURES FOR RAILWAYS—SUMMARY OF BUSINESS.

It is estimated that the State has expended since 1860, $893,600,000 for lines and rolling stock for its railroads; and that for the same purposes owners of local, branch, and privately managed lines have spent $231,000,000. Credits issued by the Government on account of railroad expenditures amount to date to $260,000,000, thus making the total cost of the Italian railroads up to 1906 $1,384,000,000, about four-fifths of which has been borne by the State. The State railways and their equipment and maintenance have therefore cost nearly $158,000 per mile. The expenditures made by the State have been sustained by taxation and by issues of Government railroad bonds bearing 5 and 4½ per cent interest, and by notes bearing 3 per cent interest, and redeemable in thirty, fifty, and ninety years.

During the year 1905–6 the State handled the following number and classes of trains: Limited, 163,229; express, 413,955; slow, 129,579; mixed, 40,888; freight, 370,708; special and extra, 205,494; total, 1,353,853, which ran 44,277,843 miles. The number of work trains handled was 110,000.

The following may be taken as a fair tabulation of the business of the system during the first year of State operation, 1905–6: Receipts: Gross earnings, $65,405,456; other receipts, $2,529,253; Government subsidies, $24,125,000; total receipts, $92,059,709. Expenditures: Operating expenditures, $42,982,579; interest, rent, taxes, etc., $9,174,830; to reserve fund, $1,308,109; rents and trackway to other lines, $2,234,809; to the treasury, $11,443,081; net profit, $24,916,301. Construction, purchase, and experiments (amount of government subsidy) $24,125,000; residue, to credit of passive obligations, $791,301.

The Government subsidy acts as a buffer against the losses of a lean year, and is applied to construction, purchase, and experimentation when it is not needed for other purposes. Among "other receipts" are included the receipts from news stands, restaurants, and other similar privileges. Included in operating expenditures is the very large contribution to the Employees' Pension and Insurance Fund, a noteworthy feature of the Italian railroad system.

PASSENGER RATES.

In November, 1906, the Government put into effect a schedule of passenger rates, which materially lowered fares throughout the country, particularly for the longer distances. Second-class fares in general are 2 cents per mile, with reductions of from 10 to 25 per cent on round-trip tickets. First-class fares, representing what in the United States would be ordinary trains, are as a rule, about 5 per cent more than the second class, and the third class about 5 per cent less than the second class. Second-class accommodations on the express trains are practically the same as in the first class, but the distinction is maintained for the benefit of foreign travelers.

Under a special system of "circular tickets" passenger fares have been further reduced on the State lines. For instance, by the old schedule, a round-trip ticket from Milan to Turin, Genoa, Bologna and Ancona, 1,160 miles, cost $25.75, while under the new schedule the cost is only $17.65. A still further reduction, in some cases as much as 75 per cent from the regular rates, is made in circular tickets, bearing a photograph of the holder, and entitling him to travel at will during its time limit. This reduction is highly useful to commercial travelers, etc. [Consul Dunning's complete report, and a railroad map of Italy, are on file in the Bureau of Manufactures.]

ALPINE TUNNEL WORK ACTIVELY CONTINUED.

The construction of the second of the twin tunnels forming the Sempione (Simplon) route through the Alps is under consideration by the Swiss and Italian authorities having jurisdiction of the matter, and it is announced that work will be undertaken at an early date. The single tunnel now in use is giving complete satisfaction. Trains are hauled through the mountain by electricity, without trouble from gas and smoke, and in from twenty to thirty minutes, while ventilation is excellent. This is the new short line from Italy to France and England. Trains run from Milan to either Paris or the French coast, to connect with the Channel ferries, in from thirteen to sixteen hours.

Work on the new Loetschberg tunnel, in the Rhone Valley, Switzerland, which is actually a continuation of the Simplon tunnel which now connects Milan directly with Paris and London, is progressing rapidly, the total distance covered up to the end of September being reported as a little over 1 mile, or one-twelfth of the total. The tunnel will cut off a detour of 80 miles of hard steaming, and will reduce the time from Milan to Paris from fourteen hours to about ten.

The Milan city government has voted to appropriate $2,000 toward the fund which is being raised to complete the survey of the

Splugen tunnel route through the northern Alps, by which Milan and Lombardy will be connected by still another direct line with central Europe.

PORTO RICO.

TRANSPORTATION AND FREIGHT RATES REASONABLE AND EQUITABLE.

In his report on trade conditions in Porto Rico, published in the December Consular and Trade Reports, Special Agent Arthur B. Butman, it appears, was led into error in regard to the construction of the island railroad and the present charges for carrying freight. Mr. Butman's statement that the road was built under a liberal grant of money is not correct. Construction was begun under authority of the Spanish Government, but there was no grant or subsidy. The mountain ranges extend east and west the entire length of the island, and therefore the only practicable route was along the coast. In a letter to the Bureau of Manufactures Mr. James Peabody, statistician of the Atchison, Topeka and Santa Fe Railway, corrects the errors contained in Mr. Butman's report and furnishes information in regard to the management of the railroad in Porto Rico that will interest those trading with the island. Mr. Peabody writes:

Mr. Butman was no doubt sincere in his report and correctly represented the information he obtained, but it was wholly ex parte and the sources of information were not the best.

I presume it is fair to say that, if asked, 75 per cent of the people, not only of Porto Rico but of the United States, would say that the railroad rates are too high. In some cases such a statement would be correct. Many rates in the United States are too high, although the average of rate in the United States is fully low enough. In Porto Rico, however, even the present rates are lower than exist in any section of the United States, although they are much higher than formerly.

FREIGHT RATES ARE REASONABLE.

The facts concerning the Porto Rico rates are as follows: At the instance of the insular government and through the suggestion of the Interstate Commerce Commission, the writer made an exhaustive examination of the railroad conditions in Porto Rico. The principal road of that country has been in existence seventeen years, during which time it has not paid a dividend nor a single penny of interest on its first mortgage issue. It was found that the roadbed, except on the new portions of the line, was very poor, while the equipment was wholly inadequate to the traffic, with the result that the service was very unsatisfactory. Nearly all of the large shippers of the island had preferential rates, many of them so low as to make it a positive loss to the railroad to handle the freight. The sugar men particularly were of this class. The railroad officials manifested the utmost willingness to do anything that would bring about an improvement. After due consideration, and with the welfare of all interested fully in mind, a schedule of rates and regulations was arranged which it was believed would not only enable the railroad to give satisfactory service, but was wholly within the ability of the traffic to pay, being as already stated lower than any similar rates in the United States. So far as the sugar and cane rates are concerned, they are much lower than the rates in Cuba and in Louisiana, with which sections Porto Rico is in direct competition.

Under the laws of Porto Rico the railroad rates before being put into effect must have the approval of the executive council of the island. The proposed rates were published, and after full investigations and hearings of interested parties, covering a period of more than sixty days, the recommended rates, with very few exceptions, were authorized by that body. Naturally those who had been favored with the ridiculously low rates formerly in effect objected to the advance. Before the advance they were equally as strenuous in their objections to the poor service. Since the new rates were put into effect the railroad company has spent nearly $1,000,000 for improvements and facilities for the purpose of bettering the service; in fact, the rate scheme was made dependent upon such action.

OPERATION AND EQUIPMENT OF THE ROAD.

Mr. A. Duval, manager of the American Railroad Company of Porto Rico, writing of transportation facilities on the island and charges for freight carried by the railroad, says:

There are in operation 198 miles of track, with an equipment of 44 locomotives and 925 freight cars. Since 1902 the company has each year increased the rolling stock and is now receiving for the season 1907-8 3 locomotives and 130 freight cars, increasing the figures given above to 47 and 1,055, respectively. Notwithstanding the fact that the fruit haul is short, as Mr. Butman observes in his report, 25 box cars have already been provided with ventilation, and of the new cars now being received 30 are ventilated box cars.

The rates which were in effect up to this year (1907) were to a great extent those made when there were three separate and distinct sections or divisions of the road, each with its peculiar local conditions. When these sections were joined and a through line formed between San Juan and Ponce, it became necessary to arrange a new schedule of rates. Before the government would approve a new tariff, the authorities arranged for an expert from the United States, who was recommended to them by the Interstate Commerce Commission, to come here and study the situation. The schedule he presented was, with a few minor changes, approved by the council and is the tariff now in force. The fruit tariff was made up by the expert after consultation with the fruit growers and after a careful study of rates in the United States.

In fact, although costs of transportation are high, the tariff on all classes of freight handled are lower than in the United States, when conditions and service are considered. From Yauco to Ponce the rate on oranges is 11 cents per box and from Ponce to New York 26½ cents. While Yauco itself is not a very good point for illustration, as but little fruit is shipped from there, the rate itself is a good average for all hauls on fruit. The Porto Rico grower is therefore in a good position to compete with Florida, although the distance to New York is not much more than half that from Porto Rico.

BETTER FACILITIES NEEDED.

Better facilities for the handling of freight in the several ports of the island must be provided. San Juan, Ponce, and Mayaguez are the three principal ports, and of these only one has any docks or piers. As a result, most of the vessel freight has to be handled by lighters. In San Juan there is a pier belonging to the New York and Porto Rico Steamship Company and a wharf belonging to the railroad company, but these, while sufficient for the needs of their owners, can not take care of all the incoming and outgoing freight of the port, and the attempt to make them do so has caused great inconvenience to all concerned. Many vessels can not get space at the docks and the cargo must be lightered—a method of handling which is not only slow, but also very expensive. The railroad company has warehouses with a storage capacity for 50,000 bags of sugar, and in addition to this has large warehouse space for the handling of general cargo, but under existing conditions is often greatly delayed and caused heavy expense in handling its freight. A liberal policy on the part of the government during the next few years will greatly improve transportation facilities and also the general business condition of the island, as we have to look to the United States and to Europe for capital for industrial developments.

DEVELOPMENT OF TRAFFIC.

The appended table, covering the past five years, will show the development of freight traffic along the line of the railroad and also the increase in equipment each year.

Year.	Miles in operation.	Tonnage handled.	Ton-miles.	Engines.	Freight cars.
1902-3	127	116,210	2,053,314	30	389
1903-4	133	195,557	3 085,266	30	509
1904-5	158	348,405	5,445,469	34	674
1905-6	170	470,913	9,650,924	38	745
1906-7	184	742,884	13,205,441	44	925
1907-8	198	....	....	47	1,055

FRANCE.

GOVERNMENT CONTROL OF FREIGHT RATES—METHODS OF REGULATION.

Consul-General Robert E. Skinner, of Marseille, replying to inquiries from the United States concerning railroad freight rates in France, writes:

Railroads in France are not owned by stock companies, although private corporations, whose shares are bought and sold freely, build and manage them. The French railroad is the creature of the state, and is brought into being by virtue of a concession. The grantee is not the veritable owner of the ground upon which the railroad is built. All that a railroad possesses in France is a right to levy taxes for certain services and to build and maintain the mechanism by which these services are performed, all in accordance with its concession or contract. The companies are subject to regulation, which begins with their contracts and which is intended to prevent them from abusing the situation which inevitably exists.

The basic principle upon which the rate tax is established is difficult of definition. It is certainly not fixed by ascertaining the cost of the services, and the public would be equally loath to admit that it is obtained by taxing the commodity as much as it will stand. The Government control is absolute. No tax, of whatever nature, may be collected by a company except by virtue of the approval of the minister of public works. The railroad companies, after the public has been informed of the demanded changes, submit their projects to the minister, who approves of them in the interest of the public, if such projects are within the maximum limits authorized in the original concession, or, in his discretion, rejects them altogether.

THREE CLASSES OF TARIFFS RECOGNIZED.

In the course of years special and differential tariffs have been established, and they have obtained the ministerial sanction, yet the words which in the railway vocabulary represent the different categories of reduced tariffs appear in no organic French act. Even the principle of reduction under the maximum rates established in the original concession is vaguely set forth. French legislation recognizes three classes of tariffs—maximum, general, and special. The maximum tariff is one that a concessionaire is authorized to collect, and in practice it is rarely applied to merchandise, although ordinarily applied to the transportation of passengers. The general tariff, while lower than or equal to the maximum tariff, is applicable to all passengers or shippers, but without other conditions than those set forth in the concession or contract. The special or conditional tariff is necessarily lower than the general tariff, and is applied under conditions which tend to equalize the reductions of prices agreed to by the concessionaire. An example of the application of the three classes of tariffs follows: A ton (2,204.6 pounds) of wheat shipped from Marseille to Lyon, a distance of 213.75 miles, is payable under the maximum tariff at the rate of $9.29; under the general tariff, at $6.17; and under the special tariff, at $3.28, if the shipment is of not less than 1 full ton, or at $2.70 if it is 5 tons or above. The tariffs commonly called international tariffs are really special tariffs applied to international commerce.

REGULAR RATES AND ADDITIONAL TAXES.

The specific freight rates on various articles to Marseille from a point 100 miles distant were desired and have been furnished by the Paris, Lyon and Mediterranean Railroad Company. The actual slow freight and express rates per ton to Marseille from Mornas, a station on the Paris line, distant 96.93 miles, on the most commonly shipped commodities, are given [the complete table being on file in the Bureau of Manufactures] as follows:

Merchandise.	Slow freight rates.						Express rates.	
	Interior tariffs.			Exportation tariffs.			Interior rates.	Export rates.
	Under 5 tons.	5 tons.	10 tons.	Under 5 tons.	5 tons.	10 tons.	1 ton.	1 ton.
Flour	$1.98	$1.88	$1.88	$1.98	$1.88	$1.88	$7.35	$5.94
Spades and shovels	2.89	2.80	2.80	2.68	2.57	2.57	9.71	7.72
Machines, in cases	3.19	3.10	3.10	2.80	2.34	2.34	9.71	7.82
Pork	5.00	4.90	4.90	5.00	4.90	4.90	7.85	5.94
Furniture and household effects	5.00	3.69	3.69	5.00	3.58	3.58	9.71	7.82
Boots and shoes, in cases	5.00	4.90	4.90	5.00	4.90	4.90	9.71	7.82
Cotton goods	5.00	4.90	4.90	3.19	2.55	2.55	9.71	7.82
Wood, rough and sawn	3.19	1.58	1.53	3.19	1.83	1.33	9.71	7.82

In addition to the authorized rates in the table, the company is entitled to collect, under the head of slow-freight shipments, supplementary taxes as follows: For each ton bill of lading, a fixed tax of 2 cents; for handling the merchandise, 29 cents per ton; for merchandise shipped without condition of tonnage, 19.3 cents per ton for goods shipped in lots of four tons and above or in carloads, whatever be the tariff applied, unless contrary stipulation is made in the special tariff which has received approval. These taxes include the cost of loading at the station of departure, the cost of unloading at the station of arrival, and station costs at the points of arrival and departure. When merchandise is shipped in lots of four tons or more or in carload lots, and when the loading and unloading of such merchandise is left under the tariff to the shipper or receiver, the foregoing tax is reduced 5.8 cents per ton for loading and an equal amount for unloading. Station costs are due in every case. Shipments the weight of which does not exceed 88.18 pounds, are exempt from all taxes for loading, unloading, and station costs.

CHINA.

PLANS FOR BUILDING THE TIENTSIN-CHINKIANG LINE.

According to Consul Thornwell Haynes, of Nankin, reports from Peking state that the railway between Tientsin and Chinkiang is to be built without delay, to which he adds:

This road, one of the most important links of the Chinese railway system, will be 600 miles in length and for the greater part of its course will parallel the Grand Canal. An agreement for the construction of this line was signed by the Chinese Government on the one part and by the Hongkong and Shanghai Banking Corporation, Messrs. Jardine Matheson & Co., and the Deutsch-Asiatische Bank on the other in May, 1899. The syndicate was authorized to issue an imperial 5 per cent loan of about $35,000,000, the actual amount to be determined after the survey. Internal disturbance delayed matters. The agreement of 1899 was that the northern part of the line should be constructed, equipped and worked on behalf of the Chinese Government by the Deutsch-Asiatische Bank, and the southern part by the agents of the British and Chinese Corporation, of which the Hongkong and Shanghai Banking Corporation and Messrs. Jardine Matheson & Co. were joint agents. General supervision was to be exercised by a board consisting of five members, three members of which were to be European and two Chinese.

A quick construction of the line would mean much. Kiaochow will, when it is built, be in direct rail communication with Berlin, and Shanghai, by means of the Shanghai-Nankin line, which passes through Chinkiang, will also be connected with North China and Europe, Great Britain and Germany being especially benefited. A most populous part of the Empire will be opened up to trade and mining, and other industries will be given an impetus which will beneficially affect the foreigner.

OPENING OF THE SHANGHAI-NANKIN ROAD.

Consul-General Charles Denby, of Shanghai, furnishes a brief account of the initial trip over the newly completed portion of the Shanghai-Nankin Railway. He says:

The road is 194 miles in length, and the trip is made from Shanghai to Nankin in six hours instead of twenty-four hours, as now by steamer. The line was formally opened on October 15. It passes through several districts well known for rice, silk, and cotton production, and touches at several important trade centers, such as Soochow, Wusieh, Changchow, and Chinkiang. It is expected the road will render easier exit for native produce, and that railway communication with the interior of China will tend to overcome the likin obstructions, which are at present such an obstacle to foreign business inland.

TRUNK LINE FOR SHANSI PROVINCE.

Consul-General James W. Ragsdale forwards from Tientsin the following published item in regard to a Chinese railway enterprise:

The natives of Shansi have obtained permission from the Peking Government for the construction of a line from Tatung to Puchow, to be called the Tung-pu line, with only Chinese money, with Ho Fu-fang, formerly provincial treasurer of Kansu, as director. The line will pass through the Hsuan-hua, prefectural city, and connect with the Peking-Kalgan Railway. The length is to be a little more than 2,000 li, or 700 miles, and it will be considered as a trunk railway in Shansi.

SOUTH MANCHURIAN RAILWAY DEFICIT.

Consul-General Henry B. Miller sends from Yokohama the following note as published by a paper in Japan on the results of the workings of the Japanese railway in Manchuria:

The result of the working of the South Manchurian Railway Company for its first business period, which has just closed, is not by any means satisfactory. The total working expenditure is put at $2,500,000 in round figures, while the revenue is not more than $2,350,000. If a dividend is paid at the rate of 6 per cent on the paid-up capital, the Government must pay $410,000 out of the treasury to make up the deficit. It is feared that the company will not be able to pay any dividend at all until the colliery and various works undertaken are in full operation.

NETHERLANDS.

VARIOUS FREIGHT CLASSIFICATIONS AND GOVERNMENT REGULATIONS.

Consul-General Soren Listoe, of Rotterdam, states that the transportation of freight in the Netherlands is divided into express traffic and parcels traffic, and thus outlines the classifications:

Express traffic consists in the forwarding of parcels and similar articles up to 330 pounds per shipment, the forwarding of which is permitted on the greater number of passenger trains. These parcels are delivered to the addressee at once upon arrival at all stations where a delivery service exists. Parcels traffic includes money, valuables, poultry, and small live animals. These are shipped on passenger trains, and upon arrival delivered the same as express traffic.

For the transportation of larger shipments there are rates for fast and slow freight. Fast freight is given preference, and the tariff is double that for slow freight. The lowest weight charged for is 110 pounds, all shipments of less weight being charged at that weight, and excess calculated for every 22 pounds or less. The minimum amount charged for fast freight is 12 cents per shipment, including shipping and discharging expenses. The slow-freight tariff is divided into four classes, and the minimum charge per shipment is 8 cents. Under special tariffs the freight calculation is made for twice the actual weight for slow as well as for fast freight. Liquids of all kinds in tank cars are charged for the net weight, with a maximum of 10 tons per car, according to the freight rate of the article contained. Empty tank cars are returned without charge. There are also 58 special tariffs on slow freights which have been established for various reasons at different times. These, however, are not applicable during December, January, and February of each year.

Loading and discharging is not included in the freight rate. Whenever the railway company undertakes such work the specific charges therefor, since November 1, 1907, are as follows: For all shipments, thus including those to and from foreign countries, 0.8 cent per 110 pounds, with a maximum charge of 20 cents for piece goods and 20 cents per car for carload lots. Raw materials, in carload shipments, are charged 10 cents per car.

GOVERNMENT SUPERVISION OF RAILROAD TARIFFS.

The authority which the Netherlands Government exercises over private railroads, especially so far as the rates are concerned, is shown by the following résumé of the royal decree governing the same:

The tariffs for the transportation of passengers and freight require the approval of the minister of commerce and industry. Before the tariffs are allowed to be in operation the same must be published, together with the approval, and must be generally obtainable at a price fixed for each tariff. The required publication must be made in the manner to be prescribed by the minister of commerce and industry.

At any time we can order the freight tariffs to be reduced. When, in consequence thereof, the net earnings of the railroad companies decrease, they are indemnified from the Government treasury. In such a case the amount of indemnification is fixed by the court of justice whenever the matter can not be arranged by mutual agreement. Under no circumstances is this indemnity

fixed at a higher sum than is required for the net earnings to amount to 8 per cent of the company's capital during the year or years that such reduction is by us prescribed.

Any changes in the tariffs are to be published at least one month before the same may be applied. A shorter period of time may be allowed with the approval of the minister of commerce and industry.

The cost of construction and maintenance of railways in the Netherlands is vastly higher than in other countries, for the reason that the greater part of the country is below sea level and the ground basis consequently not solid; thus a great deal of work and large amount of money is required for the construction of the roadbed.

[The complete report of Consul-General Listoe, giving the various Netherlands' classifications of freight and the rates thereon in a comprehensive manner, is on file in the Bureau of Manufactures.]

SPAIN.

NEW LINE BETWEEN SEVILLE AND MALAGA.

Consul Louis J. Rosenberg reports that considerable interest is evinced in the Seville district in the bill recently presented in the Spanish Senate relative to the building of a new railway line which will put Seville and Malaga in direct communication. He adds:

The bill proposes the construction of a railroad from Seville to Alcalá de Guadaira, Arahal, Olvera, Moron, Cañete la Real, Ardales, Carratraca, Casarabonela, Coin, and Malaga, avoiding the route called Los Gaitanes, which is generally considered to be very dangerous. It will also shorten the time of the trip to eight hours. The bill was introduced by Senators Louis Bores y Lledó and Louis Palomo, of Seville. The minister of fomento and director-general of public works have reported favorably upon it. It passed the Senate and will soon go to the House of Deputies, where it is believed it will pass without serious opposition and thus shortly become a law. It is generally believed that this railroad will increase the commercial relations between the provinces of Seville, Cadiz, and Malaga. Work on the new line is expected to commence within a few months.

TRANSIT GOODS PERMITTED UNDER BOND.

Chargé d'Affaires William H. Buckler, of the American legation at Madrid, transmits a translated copy of the Spanish royal order, by which permission is granted for through shipments in special cars from France to Portugal, without the necessity of a customs examination at either of the Spanish frontiers. Owing to the fact that the Spanish is wider than the French gage, such shipments have hitherto been impracticable.

This privilege of merchandise to pass through under bond is granted to all goods "with the exception of alcohol, cereals or flour made from them, and sugar." The copy of the order is on file for public inspection at the Bureau of Manufactures.

SHRINKAGE IN WEIGHT OF EGGS.

Consul-General B. H. Ridgely, of Barcelona, makes a report on the following rather important railway-transportation question which has just been raised in Spain:

The guild of dealers in eggs has protested against the railway table of natural shrinkage in weight which had been drawn up for certain goods when transported by rail. This society, maintaining that eggs do not lose in weight at all, especially in winter, and that during the summer the maximum loss can only amount to 1 per cent has proposed proving this by depositing a case of eggs in a given place for two months, when the weight, it is asserted, will be found not to have varied. The minister of public works, education, agriculture, and commerce, in view of the foregoing petition, has consented to the proposed test being made, and pending the result, the table of shrinkages approved by royal order of January 16, 1907, will remain in abeyance in so far as eggs are concerned; and further, the attention of the railway companies will be called to the matter so that losses in weight occurring shall not always be attributed to natural waste.

BRAZIL.

RIO DE JANEIRO SUBURBAN LINE TO BE ELECTRIFIED.

Deputy Consul-General Joseph J. Slechta, of Rio de Janeiro, sends the following information of the plans for furnishing rapid suburban transit in the Brazilian capital:

The greater part of the suburban districts of the city of Rio de Janeiro is reached by the trains of the Central Railway, the Government line. Special suburban trains are run over the tracks of the main trunk line which connects this city with São Paulo. The increase in this suburban traffic has been so great as to call for some solution of the problem of providing adequate facilities for the large population which depends for transportation upon these trains. The number of passengers carried in the suburban trains increased from 12,600,000 in 1901 to 19,250,000 in 1906, an increase of about 52 per cent.

It has been proposed that the suburban lines be electrified and plans are now being made to that end. It is probable that this service will be entirely separated from the main line of the Central Railway, a loop being run through the outlying suburbs so that the service will be that of a circular system. The mileage will probably be about 20 miles, some seventy minutes being required for the circuit. The present estimate places the cost of the work at about $3,500,000, but it is probable that it can not be done for less than $5,000,000. Three years is to be the time limit for the completion of the work. The plan specifies that trains are to run on a schedule providing a three-minute service, or 20 trains per hour, accommodating 40,000,000 passengers per year.

This plan, if carried out, will relieve the congestion of the more crowded portions of the city and will also help to solve the problem of cheaper homes for workingmen. The electrification of all the car lines, a part of which parallel the suburban train lines, is intended to serve this same purpose, but it covers as yet a much more limited district and at best will be a slower service. Now that the contract for this electrification has been arranged for and the concession granted to the corporation developing the 50,000-horsepower plant outside the city the work will probably be pushed as rapidly as possible in order that the improvement of the suburban train service may be discouraged as much as possible and consequent competition avoided.

CEYLON.

ISLAND'S RAILWAY SYSTEM—RULES REGARDING PASSENGER TRAFFIC.

Consul E. A. Creevey, of Colombo, states that the Ceylon Government Railway furnishes a handsome revenue. He adds:

There are now 551 miles of railway open for traffic. The first section, Colombo to Ambopussa, was opened in 1865. The original cost was $21,340,616, but additional improvements and extension brought the cost up to the end of 1906 to $26,574,986. The gross receipts for 1906 were $3,273,664 and the expenditures, excluding interest charges, $1,695,579. Over 6,000,000 passengers and more than 500,000 tons of freight were carried in 1906.

First and second class return tickets for distances under 30 miles are available for three days, and over 30 miles for seventeen days. Third-class tickets for distances under 30 miles are good for the day of issue only, excepting tickets issued on Saturday or Sunday, which are good on Monday; for distances over 30 and not exceeding 50 miles, within three days, and 50 miles and over, seven days, inclusive of the day of issue and return. Holders of first and second class return tickets between stations over 60 miles apart are allowed stop-over privileges, once going and once returning, provided they do not travel more than once in each direction over the same section of the line, and that the return journey is completed within the time for which the return ticket is available.

Sleeping accommodation can be had on the night mail trains for 81 cents in addition to the regular first-class fare. Pleasure parties consisting of not less than ten persons, traveling by ordinary trains between stations not less than 25 miles apart, may be allowed tickets good for seventeen days on payment of a single journey fare for each member, and on production of a letter from the general manager of the railway. Tourist tickets are issued to bona fide visitors to the island and are valid for two months from date of issue, but are not good for stop-over privileges.

[A monograph published by the Ceylon government, giving further details of the railway is filed with the Bureau of Manufactures.]

CANADA.

NEW RAILWAY EXTENSION OPENED IN QUEBEC.

Consul James H. Worman, of Three Rivers, reports that the first regular train was run over the La Tuque branch of the Quebec and Lake St. John Railway on November 30, 1907. This is one of the most important railway connections in Quebec Province. It will open up to traffic a section of the St. Maurice rich in timber, waterways, and water power. Several industrial enterprises are either projected or developing, and it is expected that the extension to La Tuque of the Canadian Pacific Railway system, now running in the St. Maurice Valley between Three Rivers and Grand Piles, will connect this northern region, hitherto frequented mainly by hunters, trappers, and lumbermen, with the three great ports of the Province, Montreal, Three Rivers, and Quebec, and prove, when completed next year, one of the principal feeders from northeastern Quebec of the Grand Trunk Pacific Railway.

ARGENTINA.

NEW TRANS-ANDEAN RAILROAD CONCESSION.

Consul-General Alban G. Snyder transmits from Buenos Aires a translated copy of a railroad concession just granted by the Argentine Government for the construction of a narrow-gage railroad from a point on the Central Northern Railroad to some point on the Chilean frontier, where it is to connect with a similar line to be constructed in Chile. The concession may be inspected at the Bureau of Manufactures.

STEAMSHIP LINES.

BRAZIL.

IMPROVED SERVICE TO NEW YORK—SOME FREIGHT DIFFICULTIES.

Deputy Consul-General Joseph J. Slechta, of Rio de Janeiro, notes the many favorable comments among Brazilian import houses and American trade representatives traveling in Brazil on the recent determination of the Lamport & Holt Steamship Company to run a twice-a-month service from New York to Rio de Janeiro, concerning which he says:

The Verdi, the fourth of the new steamships for this line, has just been launched in Belfast. Its length is 445 feet; gross tonnage, 6,300; passenger accommodation, 150 first class, with commodious and airy cabins especially arranged to meet the needs of a hot climate. Cargo accommodations will be superior to any hitherto offered from New York to Rio, the size of hatchways and construction of cargo compartments being especially designed to provide for heavy and bulky machinery shipments. With the inauguration of this service communication between New York and Rio will have been raised to as high a standard as can be hoped for under present conditions. Should the semimonthly service be made permanent, it is quite probable that most of the freight from New York to Rio will be carried by conference line steamships. Considerable complaint has been current on the part of Brazilian importers that New York forwarding agents have not made consignments in vessels offering rates below those made by the conference lines.

That there is a misunderstanding as to the exact situation in this respect is shown in a communication, which I have seen, from a large New York forwarding house to one of the largest importers in Rio. This communication was a reply to just such a complaint as the above and deserves particular attention. The New York house mentioned has been inclined to give all its freight to the conference lines, whose sailings are more or less regular and whose rates are fixed. The writer justifies this course by reason of the fact that while lower rates may be secured on tramp steamers and on the Brazilian line, such lower rates are offered only when a vessel carrying freight at conference rates is in the harbor. At other times the rate given is the same or higher than the conference rate. This state of affairs quite justifies exporters in giving their business entirely to the conference lines, and with a biweekly service of good vessels making better time than any others, exporters will be independent of the irregular, slow, and unsatisfactory service of competing lines.

IRREGULAR SAILINGS AND FREIGHT DELAYS.

It is to be hoped that the two new steamships to be put on the New York trade by the Brazilian Lloyd Company will be run on a more satisfactory schedule and under more favorable circumstances than has been the case with their other "regular" and chartered steamers. An idea of the situation may be had from the fact that the representative of the marine board of underwriters in this city has given it as his opinion that insurance support would be withdrawn from these vessels unless in the near future a decided improvement was effected in the matter of handling cargo. Very heavy losses have been suffered on outgoing as well as incoming freight. An example of the deplorable state of affairs may be cited in the case of a recent consignment of coffee from this port to New York by one of the largest shippers here. Some 20,000 bags of coffee were embarked on a chartered steamer with the understanding that the ship would sail within two or three days. Some twenty-five days later a telegram from the consignees as to the whereabouts of the coffee caused an investigation, which resulted in the information that the ship was still in the harbor of Rio de Janeiro.

The situation in Rio to New York freight rates is not auspicious as to the success of the large steamships to be put on by Lamport & Holt, the rate for coffee being, as before, 10 cents per bag. There are some indications, however, that the rate cutting is nearing an end, but in any case the fact that these four large vessels are to take in the Buenos Aires trade makes them independent of the situation here, provided, of course, that sufficient cargo is offered in the Plata River.

Perhaps the most important of the immediate advantages to be gained from this new service is that an eighteen-day mail from New York will be possible every two weeks instead of monthly as at present, all other mail coming more regularly and in less time by way of Southampton than by the direct boats.

SUMMARY OF THE SERVICE.

Arrangements for the fortnightly service of steamships between New York and Rio de Janeiro indicate that it is the plan to maintain the sailings of the ships Tennyson and Byron on the 5th of each month and to inaugurate sailings of the large "V" class steamers on the 20th of each month. The first of the large steamers to start on the regular run will be the ship Verdi, which is a new steamer, right from the builders' hands, and will come out from England in ballast and make its maiden run starting January 20. This steamer has accommodations for about 150 first class, 50 second class, and very large steerage for its size.

This fortnightly service is from New York to Bahia in fifteen days, reaching Rio de Janeiro on the eighteenth day out from New York. The stops are one day at Bahia, two at Rio de Janeiro, one at Santos, the "V" steamers reaching Buenos Aires on the twenty-sixth day from New York. The Tennyson and Byron will proceed only to Santos. The Velasquez, already in the South American service, will leave New York February 20 and has accommodations for 100 first-class passengers. The Vasari, to be launched in April, will have accommodations for 150 first-class passengers.

The maintenance of this service is likely to lead to important changes in the mail service between the United States and South American ports south of Bahia and the situation needs to be watched by American exporters.

AUSTRALIA.

STEAMSHIP LINE DESIRED FROM SAN FRANCISCO TO AUSTRALASIA.

Consul-General William A. Prickett, writing from Auckland, tells of the regret in New Zealand over the suspension of the steamship line from the United States to Australasia and the need for such a service:

The United States and New Zealand are particularly interested in first-class intercommunication. Their trade, which has increased nearly 300 per cent in the last ten years and now exceeds $10,000,000 annually, demands a fast mail, passenger, and cargo service to and from San Francisco at intervals of not more than three weeks. The boats in this service should be as good or better than those of any line now plying between Europe and Australasia. This line, for obvious reasons, should touch at Honolulu and Pago Pago and carry the American flag. Such a fast mail and passenger line from San Francisco to Sydney, calling at Auckland outward and inward, would be of great value to New Zealand, and also to the United States, for the following reasons: First, if the boats were not less than 10,000 tons burden, capable of making an average of 16 knots an hour without forcing, with up-to-date cabin accommodation, there would certainly be steadily increasing travel from Europe by this route, incidentally leaving considerable sums of money in the United States; second, the trade of the United States with Australasia, now amounting to over $40,000,000 per annum, would be conserved and increased. There are great possibilities in future trade with these British commonwealths, considering their large areas, abundant prosperity, and increasing population. Third, a great international route like this passing through our most important Pacific port would greatly aid the development of our whole Pacific coast, and, fourth, the United States would have the needed regular communication with its possessions in the Samoan Islands.

ADVANTAGES TO BE DERIVED.

If the United States wishes to secure the important advantages mentioned it should act before a permanent satisfactory service shall have been established via Vancouver. New Zealand is not getting the accommodation it needs, for the Vancouver service is slow, does not touch at Auckland, and mail connections have to be made via Fiji outward and Sydney inward. Since the withdrawal of the Oceanic line there have been many complaints from the merchants of Auckland and other parts of New Zealand. Now that the boats have been taken off it is realized that more strenuous efforts should have been made to retain the service. That the merchants of Auckland are anxious for a better mail service as soon as possible was evidenced at a recent meeting of the Auckland Chamber of Commerce. A motion was carried "that the chairman be empowered, in the name of the chamber, to make representations to the Government in the direction of securing an improved service."

A service such as has been described, making it possible to make the voyage from London to Auckland in twenty-six days, and from San Francisco to Auckland in sixteen days, would have to be subsidized sufficiently to guarantee the owners from losing money at the start. After a few years it might be necessary only to pay for the actual cost of the transportation of the mails.

DIRECT FRENCH STEAMSHIP LINE TO MONTREAL.

Consul James H. Worman reports from Three Rivers that the modification in the tariff regulations between France and Canada will, it is expected, lead to a marked increase in traffic between the two countries. Concerning the shipping facilities, he writes:

There have been direct freight and passenger connections by the Allan Line with Havre for some time, and there is promised an increase in the number of ships and the frequency of sailings. The Compagnie Générale Transatlantique has decided to turn a number of their passenger vessels from New York to the St. Lawrence, and so increase the service between Montreal and French ports. An agent for the company states that the matter had been under consideration for some time, and that the opening of the next season will see the French flag in Montreal. The new line will be inaugurated by La Bretagne and La Gascoigne, two of the older boats on the New York service. The tonnage of the former is about 6,000 register and only cabin passengers are carried.

SWEDEN.

AGITATION AT STOCKHOLM FOR DIRECT STEAMSHIP LINE TO AMERICA.

Consul-General Edward L. Adams, of Stockholm, reports the beginning of a movement for establishing a direct line of steamships between Swedish and American ports, as instituted by the Swedish-American Society of Stockholm. He forwards a summary of points thereon made in a lecture by Deputy Consul-General Carl E. A. Friberg:

In his lecture Mr. Friberg gave a brief history of the previous experiments that have been made in this direction, between the years 1870 and 1885, and how they were all absorbed by other competing lines. He showed that they did not cease existence because of lack of business or of scanty patronage, but because of their being thus taken over by stronger companies. Since that time the volume of business between the United States and Sweden has increased by nearly 37 per cent. Mr. Friberg gave a brief history of the Baltic monopolizing freight lines, which are said to have proved to be a great drawback and economic loss to the exporters on both sides of the ocean, as practically all goods shipped from the United States to Sweden, and vice versa, must go through Copenhagen or Hamburg, which materially increases the expenses of the shipper.

Figures were also given showing that during the year 1906, 19,112 Swedish-Americans came over from the United States, of whom 72 per cent visited Sweden for the first time after emigration; 18 per cent visited Sweden for the second time, and 10 per cent made the trip for the third time or more. The general American tourists, aside from the Swedish-Americans, are comparatively few, being about 7,000, according to official figures, but if Sweden had advertised the advantages of the country to tourists, the patronage would have been greatly increased.

These two factors—the passenger and freight traffic—seem to prove the necessity and practical wisdom of establishing such a direct steamship line. The society adopted resolutions of sympathy with the plan, and a committee of five, of which Mr. Friberg is chairman, was appointed. One of the members is Mr. John Hammar, chief director of the Swedish Official Export Association, who was also Swedish commissioner to the world's fair at St. Louis. Among the prominent members of the Swedish-American Society is Hon. Herman de Lagercrantz, the present Swedish minister to the United States.

NICARAGUA.

STEAMSHIP FREIGHT CHARGES BETWEEN NEW YORK AND THE REPUBLIC.

Consul F. M. Ryder, of San Juan del Norte, transmits the new tariff of rates between New York and Nicaraguan ports. He says:

A new tariff of steamship rates is now operative on passenger and freight traffic between New York and Lake Nicaragua ports, via the Atlas Line and the Compañia Limitada de Ferrocarriles y Vapores Nacionales, through this port and the San Juan River, all lighterage and wharfage dues being included.

That the new rates are attractive to shippers is evident from the consignments on the steamship Sarnia, arriving at this port November 1 last; she brought 2,694 packages, aggregating 135 tons of general merchandise, and the Sibiria (two weeks later) arrived with about 40 tons. The larger percentage of the cargoes was destined for the lake ports, there being a considerable quantity of flour consigned to merchants in the interior, on account of the Pacific Mail steamers not touching at Corinto.

The freight rates from Grenada to New York, including wharfage and lighterage at San Juan del Norte (Greytown), per 100 pounds are as follows: Cleaned coffee, $1; coffee in the husk, $1.20; and hides, deerskins, and rubber, $1.40. The rates from Grenada to Hamburg per 2,240 pounds are for cleaned coffee, $19.44; coffee in the husks, $24.30; hides, deerskins, and rubber, $29.30, and on bullion, specie, etc., 1¼ per cent on the declared value. The charges from New York to San Juan del Norte are 42 cents gold per 100 pounds or 17 cents per cubic foot, and 10 per cent primage. For comparative purposes the freight rates from New York to Corinto are 70 to 80 cents per 100 pounds, or $14 to $16 per 40 cubic feet, plus wharfage at Panama.

ASIATIC TURKEY.

NEW GERMAN STEAMSHIP SERVICE AT SMYRNA.

Consul Ernest L. Harris reports that, beginning with January 1, 1908, the North German Lloyd Steamship Company will be running three vessels to the port of Smyrna, which are too large to pass the breakwater, and touch at the pier. They will be obliged to cast anchor in the roadstead for the reason that the harbor does not offer facilities for vessels of their size. It is therefore necessary to establish a special service of small boats for conveying passengers to and from the steamers. The local agent states that in the beginning this service will probably consist of two small steam tugs or tenders. This will be an innovation in the service at Smyrna. Thus far all steamers casting anchor in the roadstead have been waited upon by large rowboats. This service has been uncomfortable, inadequate, and sometimes even dangerous when the waves in the harbor have been running high. In this connection it is probable that the question of enlarging, dredging, and improving the harbor will be revived.

GERMANY.

GREAT ACTIVITY SHOWN IN SHIPBUILDING.

Consul-General Richard Guenther, of Frankfort, furnishes the following statistics concerning the increase in shipbuilding in Germany:

The number of vessels built in the Empire in 1906 was 760, of 398,151 registered tons, against 646 of 310,771 registered tons in 1905, and 535 of 267,991 registered tons in 1904. Among the vessels built in 1906 were 11 men of war of 30,831 registered tons. In addition to the foregoing, there were built in foreign countries, on orders, for German firms, 119 vessels of 122,845 registered tons. This demonstrates the activity of the German shipping trade.

MADAGASCAR.

TWO SUBSIDIZED SERVICES RECENTLY INAUGURATED.

Consul James G. Carter sends from Tamatave the details of the new steamship service for the east coast of Madagascar and that between that island and South Africa. The former, which went into effect on October 6, 1907, is subsidized at $23,160 a year for ten years, and calls bimonthly at the principal ports from Diego Suarez to Fort Dauphin. The other service connects Durban and Tulear, was established on October 31, and will receive a subsidy of $15,438 for twelve trips a year. Freight and passenger rates and other particulars are on file for public information with the Bureau of Manufactures.

JAPAN.

PROGRESS MANIFEST IN SHIPPING INTERESTS.

Consul-General Henry B. Miller, of Yokohama, reports that the charter of the Nippon Yusen Kaisha (Japan Mail Steamship Company), which granted state aid to its five principal lines in far eastern waters, has been renewed from the beginning of October for the period ending March 31, 1912.

Tokyo journals state that the South Manchuria Railway Company is about to engage in maritime traffic between Tairen (Dalny) and South China ports, and that arrangements have been effected with the Osaka Shosen Kaisha for a supply of steamers.

WATERWAYS AND HARBORS.

LUXEMBURG.

PROPOSED INLAND WATERWAY WILL CONNECT WITH OLDER CANALS.

The Luxemburg Chamber of Commerce recently published an interesting report in regard to a projected canal connecting the Chiers and Moselle rivers, which Consul H. Abert Johnson, of Liege, states is destined to prove of immense value to the important industries and commerce of that part of Europe. The consul writes:

The proposed canal will be about 31 miles long, and will contain a dividing reach at an elevation of some 900 feet above the sea level, having a descent of 780 feet on one side and of 417 feet on the other. The project will also call for a tunnel of 1¼ miles through the solid rock.

To the mining districts in the southern part of Luxemburg, as well as to the important industrial centers of Briez and Longwy in France, this new waterway will prove highly beneficial in that it establishes direct communication with the French, German, and Belgian systems of inland water routes. The distance by canal from Esch-sur-l'Alzette, the industrial center of the Grand Duchy of Luxemburg, to Rotterdam by way of this new canal, the canals of the Moselle and the Rhine will be 669 kilometers (415.7 miles), and the distance from this same center to Antwerp, by way of the canal systems of the Meuse and Sambre, the canal from Charleroi to Brussels, together with the Willebroeck Canal, will be 448 kilometers (278.37 miles). The distance to Dunkirk by way of this same Chiers Canal, the Schelde and Meuse rivers, and the canal systems of northern France will be 407 kilometers (290.08 miles), very little more than the distance to Antwerp, and 202 kilometers (125.52 miles) less than the distance to Rotterdam.

OUTLET FOR IRON ORE—CANAL CONNECTIONS.

It is well known that extensive iron-ore deposits exist in Luxemburg in the vicinity of the Moselle Valley. Reliable reports estimate the amount of high-class ore available to be several billions of tons, located chiefly in a region bounded by the Moselle and Chiers rivers, and extending for some 50 miles in the direction of the latter.

The three countries most directly interested are naturally desirous of facilitating in every way the construction of convenient waterways to be utilized in transporting these ores to their works and in establishing direct communication with important sea ports. France, it appears, has already decided, in this connection, to construct the Chiers Canal, which will be some 50 miles long, and later on, another canal, known as the Nord-Est, which will include that of the Chiers and will have a total length of 180 miles. Germany is at present studying the canalization of the Moselle between Metz and Coblenz. The Grand Duchy of Luxemburg, situated between these two important canal systems, apparently has no intention of lagging behind her immediate neighbors in this matter of developing and improving inland waterways.

Should these three proposed schemes regarding inland waterways be brought to a successful termination, the Moselle River will become directly connected with the Meuse, and direct communication will thus be established between one of the richest iron-ore regions of Europe and the French, German, and Belgium systems of inland waterways. The movement of freight that would follow as a result of the opening up of these new highways of inland navigation could easily reach something like 65,000,000 tons annually. It is quite certain, however, that this enormous freight tonnage would not be transported exclusively by canal; a conservative estimate would place the amount thus transported at not less than one-third of this entire total.

In connection with this scheme of canal building, there might be an opening for certain classes of American machinery, and I would suggest the advisability on the part of any manufacturer desiring to investigate more fully of communicating directly with the Luxemburg Chamber of Commerce, at Luxemburg.

CANADA.

CANADIAN RAILROAD BUILDING NEW LAKE PORT.

Consul E. A. Wakefield, of Orillia, advises that in connection with the Canadian activity in railway and mining circles the preparations for establishing a new port at Key Harbor or Key Inlet on the Georgian Bay are attracting considerable attention, on which he writes:

Key Harbor is situated between Bying Inlet and French River on the Georgian Bay, about 75 miles north of Parry Sound, the nearest port of any size. From Key Harbor the product of the Moose Mountain iron mines is to be shipped to various lake ports. These mines are 30 miles north of Sudbury and about the same distance from navigable water as the iron ranges back of Duluth, but are 500 miles nearer coal and smelters.

The docks are to be situated about 6 miles from the main line of the Canadian Northern Ontario Railway, to be connected by a spur track, grading for which is nearly completed. This will give direct rail connection with the mines. A trestle 1 mile in length will be built with pockets beneath, on which train loads of ore will be handled without inconvenience. The largest boats on the lakes can be used, as there is a 24-foot depth at the dock side.

The power house is nearly completed; a coal dock is to be constructed, and work on the ore docks will be carried on during the winter months. The transshipment of mineral alone will probably make Key Harbor a port of considerable consequence, but when the Canadian Northern Ontario connection with Ottawa is made it will become an important factor in Canadian Northern direct traffic between tide water and the West. According to the intentions of the constructors, ore will be shipped from Key Harbor to Cleveland; coal from that point to Port Arthur, and wheat from Port Arthur to Key Harbor. The Government steamer Bayfield has about completed the survey work for the harbor, having the necessary buoys and lights ready to be placed in position. The first shipments will probably occur next spring shortly after the opening of navigation.

MOROCCO.

HARBOR IMPROVEMENTS TEMPORARILY ABANDONED.

Consul-General Hoffman Philip writes that harbor improvements are being made at two of the eight Atlantic coast towns of Morocco, namely, Tangier and Casablanca. Work at the first-named port, which is nearing completion, is being carried out by a German contracting firm. The harbor works at Casablanca are in charge of a French company, but operations have stopped, owing to the late disturbances there. Both the foregoing contracts were obtained direct from the Moorish Government before the conclusion of the international agreement of Algeciras in regard to Morocco. All future public works of a similar nature will be submitted by the Moorish Government to public bids for the contracts.

It is stated that harbor improvements are contemplated for the future at the ports of Saffi, Laraiche, and Mogador, but owing to the present disturbed political condition of Morocco nothing is likely to transpire in this direction for some time.

MEXICO.

OPENING OF THE PORT OF TOPOLOBAMPO.

Consul-General A. L. M. Gottschalk, of Mexico City, reports that a concession has just been applied for in the name of the Mexico, Kansas City and Orient Railroad, to improve the natural harbor of Topolobampo. It is estimated that some $5,876,000 in gold will be spent upon the work. The port is to be the terminal of a projected railroad from Kansas City, Mo., through Mexico to the Pacific coast. Topolobampo is said to be one of the best natural harbors of Mexico. It lies within the Gulf of California, but not far from its mouth, and is protected by the island of Momocahui, which it is planned to connect with the mainland. The terminal yard of the railroad will be established upon the peninsula thus formed, and six large wharves will be built for the accommodation of shipping.

POSTAL SERVICE.

THE GERMAN PARCELS POST.

BREMEN.

HOW THE SYSTEM IS DIVIDED—FEES CHARGED.

Consul W. T. Fee, of Bremen, states that the parcels-post system of Germany, as well as most of the railroads, is owned by and is under the control and operation of the Imperial Government. He adds:

The express companies in Germany are less developed than those in the United States, where the largest part of parcels forwarded are handled by these companies. Under the German parcel-post system, parcels are divided into five classes, namely: (1) Parcels with value declared; (2) registered parcels; (3) common parcels, value neither declared nor registered; (4) collect-on-delivery parcels; and (5) urgent parcels. Each shipment of parcels must be accompanied by a waybill called "packet addressee;" and no more than three packages, which must be of the same class, and which must bear the same address, are to be entered on one waybill. Each c. o. d. or urgent package, however, must have its own waybill.

Forms of waybills, with the respective postage stamp of the amount of the charge printed thereon, are furnished by the post-offices at the price of the postage charge, while waybills, without this stamp imprint, are sold by the post-offices at the price of 1.19 cents for five pieces. Forms of waybills, which are purchased from other sources, must conform in every respect with those furnished by the post-office department. There are two different kinds of waybills in use, foreign and domestic.

SCALE OF CHARGES.

At times of increased postal traffic, before Easter, Whitsuntide and Christmas, a waybill for each package is required. The prices charged by the post-office for forwarding parcels vary according to the weight of the packages and distance. The fees charged are shown in the following statement:

For parcels weighing up to—.	For distance up to—					
	46 miles.	92 miles.	230 miles.	461 miles.	702 miles.	Over 702 miles.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
11 pounds	5.9	11.9	11.9	11.9	11.9	11.9
15.4 pounds	7.1	14.2	16.6	19.0	21.4	23.8
17.6 pounds	8.3	16.6	21.4	26.18	30.9	35.7
19.8 pounds	10.7	21.4	30.9	40.4	49.98	59.5
22 pounds	11.9	23.8	35.7	47.6	59.5	71.4
Additional 2.2 pounds	1.1	2.38	4.76	7.1	9.5	11.9

The maximum weight for parcels to be forwarded by post is 110 pounds.

For registered packages an additional fee of 4.76 cents is charged, while the insurance fee for packages with declared value is 1.19 cents for each $71.40 or fraction thereof. For "not-prepaid" parcels up to 11 pounds a collection fee of 2.38 cents is levied. Besides this, in places where there is delivery to the house, an extra fee of 3.5 cents is charged for packages weighing up to 11 pounds.

Packages may be sent c. o. d. (Nachnahme) in the German Empire if the amount to be collected does not exceed $190.40. These c. o. d. packages, if payment is not made at presentation, will be held for seven days. Meanwhile another request will be made on the consignee to pay the amount charged, and then if payment is refused the package is returned to the consignor. The fee charged for c. o. d. packages in addition to the ordinary postage is 2.38 cents, and the fee for the postal money order, by means of which the amount collected is returned to the consignor, is charged. The charges for these money orders for amounts not exceeding $1.19 are 2.38 cents; not to exceed $23.80, 4.76 cents; $47.60, 7.14 cents; $95.20, 9.52 cents; $142.80, 11.9 cents; and $190.40, 14.28 cents.

CLASSIFICATION OF PRINTED MATTER—LOSS OF PACKAGES.

Printed matter, samples without value, newspapers and business cards do not come under the heading of parcels or packages, different rates of postage and also different limits of weight and measure being provided for these classes.

In a case of loss the post-office refunds for common packages at the maximum rate of 71.4 cents per 1.1 pounds, and for a registered package at least $10.

Parcels are handled by the post-office entirely separate from letters and other mail matter. A request may be sent to the post-office on an unfranked postal card to call for a package, whereupon the parcel-post wagon will call at the place designated in the request. An extra charge of 2.38 cents is made for this service, regardless of the size or weight of the package.

Under ordinary circumstances, a package sent from Bremen to Munich, Bavaria, a distance of 470 miles, thus crossing Germany from north to south, will be delivered on the evening of the second or on the morning of the third day. If it weighs up to 11 pounds, it will cost 11.9 cents. If it is a c. o. d. package for $142.80, it will cost 11.9 cents for postage, 2.38 cents for collection fee, 11.9 cents for return money order, and 1.19 cents for delivery charge for the money order, in all 27.37 cents. The same package could be sent at the same rate from Bremen to Konigsberg, a distance of 579 miles.

SLIGHT RESTRICTIONS AS TO WHAT MAY BE SENT ABROAD.

There is no restriction as to the size of packages to be shipped within the German Empire, as long as they are not cumbersome, but the size of packages to foreign countries, as a rule, must not exceed 23.6 inches in each dimension. Exceptions from this rule are made for goods like umbrellas, canes, charts, furs, plants, etc., which may measure 39.37 inches in length, if they do not exceed 7.87 inches in breadth and height. Besides this there is a space limit of 25 cubic decimeters (1 cubic decimeter=.035 cubic foot) for packages destined for Algiers, Tunis, Santo Domingo, and the French colonies, and 20 cubic decimeters for packages to Bolivia, Brazil, and Canada, while packages for Great Britain and nearly all its colonies may measure one meter in each dimension, with a space limit of 54 cubic decimeters.

Packages to foreign countries, exceeding the before-mentioned limits in weight and measurement, may be shipped as "postal freight." The rates for such shipments, however, vary too much to be quoted here, and they are, in most instances, subject to contracts of the post-office department with prominent forwarding agents.

For packages to the United States—that is, to New York, Jersey City, and Hoboken—the charges are from 30 cents for 2.2 pounds up to 64 cents for 11 pounds. To all other places in the United States, Alaska excepted, the rates are 55 cents for 2.2 pounds up to 88 cents for 11 pounds.

According to a postal treaty between the United States and Germany, which is in force since October 1, 1907, packages, which for any reason can not be delivered will not be returned after a period of thirty days, as heretofore, but the consignor will be informed of this fact by the post-office in order to give him a chance to dispose of the package in some other way. If the consignor has not disposed of the package within two months it will be returned to him as undeliverable.

For special delivery of a package 5.8 cents is charged, and for urgent packages, which will be forwarded by the fastest mail facilities, a charge of 23.8 cents is made, in addition to the regular postage and the special delivery fee collected for each package.

PLAUEN.

OFFICIAL EXPRESS SERVICE.

Consul C. B. Hurst, of Plauen, writes as follows:

It is widely believed that the forwarding of small packages in Germany is altogether within the province of the post-offices. This is not altogether the case, however. During the Christmas holidays, when the post-offices are inundated with mail matter, the existence of an official express service becomes more noticeable. Particularly during this busy season special facilities are offered for the dispatch of parcels on the German railroads. Packages will be accepted not only during the regular hours of the station baggage rooms, but also during the night and on Sundays. Any article may be sent that can go conveniently in the baggage wagons and to and from such stations on the German lines that have a baggage service, but not beyond the German frontiers.

Every parcel must be accompanied by a railroad parcel address card which the sender has to fill out. Five pieces may be sent to a single address by one card. Such express parcels will be taken on all trains except the limited. The lowest charge is 11.9 cents for from one to five pieces together, up to 44.09 pounds, on accommodation trains, according to the distance. On through express trains the lowest charge is 23.8 cents. The addressee may take his parcel away from the baggage room at the delivery station, or, if he is not on hand when the package arrives, he will be notified at once. In larger towns the packages will be delivered upon the payment of an additional fee. For 13.1 cents a blank receipt book for railway express parcels may be purchased and any shipments made will be noted therein by the official of the station where the packages are presented. In other form than this no receipts are given. In the parcels post charges are paid in stamps; at the railway stations the expressage is paid in money.

POST-OFFICES IN CHINA.

GROWTH OF MAIL HANDLED CAUSES EXTENSION OF SERVICE.

Consul Thornwell Haynes, in the following report from Nankin, traces the development of the Chinese post-office, which was established in 1896 by imperial decree:

The first attempt at anything like a post-office service was begun more than thirty years before 1896, when, after foreign representatives had taken up their residences in Peking, the legation and customs mail were exchanged between Peking and Shanghai under the auspices of the tsungli yamen (the present wai-wu-pu or foreign office) by means of the Government couriers. The customs undertook the making up and distribution of these mails, and immediately postal departments were opened in the inspectorate and in the customs-house at Shanghai. The latter department extended to Tientsin, Chinkiang, Taku, Chefoo, Newchwang, and other important cities. In 1878 the customs postage stamps appeared, and it was in this same year that China was formally asked to enter the International Postal Union, but declined.

At the International Postal Congress in Rome last year China announced her intention to join on a date to be hereafter fixed. The final protocol signed by all the other powers on May 26 was left open for her adhesion, provided she notified the Italian Government of her intention before July 1 last. But the date passed without being taken advantage of, though China is aware that isolation places her at a certain disadvantage. Without China's knowledge or consent Japan has notified the International Postal Bureau at Berne that she has opened parcel post-offices in forty-one towns in Manchuria. She carries her own mails free, or at nominal rates, on her South Manchurian Railway. She refuses to carry Chinese mails on the same railway except by slow trains, and she charges union rates for carrying Chinese domestic mails through Chinese territory.

INCREASE IN THE SERVICE.

Since the establishment of the post-office ten years ago no enterprise in China has shown such rapid development. Its few straggling offices have increased to considerably over 2,000, and during the last year the articles handled increased from 76,000,000 to nearly 113,000,000. Parcels, which numbered a few over 1,000,000 in 1905, have reached 1,383,000, while money-order transactions during the last year have risen from $589,550 to $1,100,410. In speaking of last year's work, the postal secretary says:

> Revenue itself shows the largest advance yet recorded, and although naturally a large expenditure corresponds to it, due proportion has been kept, and the financial year ends, like the two previous ones, with results both satisfactory and promising. Another pleasant feature to notice is a fall of over 1,000,000 in the number of letters in the clubbed mails carried for native postal agencies. The operations of these agencies were somewhat unsettled at Canton, owing to the sudden enforcement, in July, by the Hongkong administration of the full rate—4 cents instead of 2 cents—on their letters between Canton and the British colony; but elsewhere their business remains stationary or is declining, an observation which, seeing the rapid strides made from year to year by the imperial post-office at the same places, confirms the fact that agencies are losing ground. Two new measures sanctioned by the Government toward the end of the year enforce the payment of part postage on all clubbed mails and the universal registration for all min-chu and materially improve the position of the

imperial establishment in its dealings with these agencies. The two measures may be expected to tell favorably on the general operation in the near future.

STATISTICAL RESULTS—FOREIGN OFFICES OPEN.

The following table shows the marvelous development of the post during the last four years:

	1903.	1904.	1905.	1906.
Head and subhead offices	34	40	41	38
Branch offices	320	352	396	484
Agencies	609	927	1,189	1,574
Articles dealt with	42,500,000	66,000,000	76,000,000	113,000,000
Parcels, number	487,000	772,000	1,032,000	1,383,000
Parcels, weight (kilos)[a]	1,213,000	2,702,000	3,262,000	4,310,000
Letters in native clubbed mails	7,267,000	8,300,000	8,896,000	7,892,000

[a] Kilo=2.2 pounds.

The British now have offices at Shanghai, Tientsin, Chefoo, Hankow, Ningpo, Foochow, Amoy, Swatow, Canton, and Kiungchow. German offices are at Shanghai, Peking, Tientsin, Chefoo, Tsinan, Tsingtau, Ichang, Hankow, Nankin, Chinkiang, Foochow, Amoy, Swatow, and Canton. French offices are at Shanghai, Peking, Tientsin, Chefoo, Chungking, Hankow, Ningpo, Foochow, Amoy, Canton, Kiungchow, Pakhoi, and Mentze. The Japanese have offices at Shanghai, Peking, Newchwang, Tientsin, Tangku, Chefoo, Shasi, Hankow, Nankin, Soochow, Hangchow, Foochow, Amoy, Swatow, Canton, and Changsha. The United States has but one office, that at Shanghai, while Russia has offices at Shanghai, Peking, Tientsin, Chefoo, and Hankow.

It is interesting to note from this list that, notwithstanding the fact that foreign post-offices might well be limited to the terminal ports of foreign mail boats, namely, Shanghai, Canton, and possibly, Tientsin, they are becoming more and more numerous.

EFFECT OF FOREIGN AGENCIES.

That these foreign postal agencies impede the progress of the native post is brought out in the postal secretary's report, which states:

> Alien post-offices were originally established at treaty ports for the convenience of the foreign communities doing business there, and China recognized the fact while she was still unable to offer the facilities of a developed postal organization. Of late years, however, she has proved her ability to deal with all kinds of mail matter, international as well as domestic. In thus fitting herself for union requirements for the chief benefit, as it is obvious, of foreign residents, she aimed at securing reciprocity, that is, recognition of the postal rights she is entitled to claim on her own domestic soil. Not only, however, have all British post-offices at treaty ports instituted the penny postage, but the American agency at Shanghai has established the 2 cents gold rate for home correspondence. Many of their nationals living at inland places avail themselves freely of these rates for their foreign letters, under conditions which render the practice quite irregular. Some have resource to friends living at treaty ports, and thus pass to and from inland places their home correspondence in close packets through the Chinese office, franked at China's domestic rates. Others send these packets openly addressed direct to their national agencies, the contents, franked at home rates in foreign stamps, being treated at these agencies as if regularly posted. The letters being international, it is clear that international postage on them is due and for those going abroad Chinese stamps are required. Both methods are not allowable and constitute a hardship to the Chinese administration by depriving it of its lawful earnings. The official view of the matter is being brought to the notice of the foreign public inland, and it is hoped that it will soon be seen in the proper light and these irregularities stopped.

UNIFORM ORTHOGRAPHY OF OFFICES EFFECTED.

A great hindrance to effective work of the post-office is due to the different Romanization of Chinese places. A movement has been on foot for some years to adopt a conventional system for this. The spelling of Chinese characters in Roman letters varies with each nationality, missionary society, and even individuals, and there is in consequence endless confusion in the foreign representation of names of places, making it difficult and in some cases impossible to identify them in a foreign address. The Chinese administration issues notifications requesting the public at treaty ports to have written on the cover the Chinese characters of the place when the destination is inland, but such a rule can not be made compulsory, and many residents neglect it; consequently occasional misdirections occur, and thus draw unmerited aspersions on the post-office.

The Chinese telegraph administration shares the same experience, and the customs coast department, which has to determine names for its charts, is also interested in the matter. On being approached by the various authorities concerned, the inspector-general authorized the postal secretary to have a committee formed at Shanghai for the study of the question under the presidency of the statistical secretary, and after laborious inquiries from all quarters the committee has drawn up a list, fixing the foreign spelling of the names of some 2,000 postal localities. This list will be brought up to date from time to time, and as the plan is to make it authoritative for names in all official publications and working documents and maps of the Chinese customs, posts, and telegraphs, it is hoped it will soon secure universal recognition among the foreign public.

FOREIGN MAILS.

CHINA.

GOVERNMENT DECLINES TO HANDLE THEM GRATUITOUSLY.

Mr. Wilbur T. Gracey, consul at Tsingtau, makes the following report regarding the handling of foreign mails in China:

Recent telegraphic advices state that the Chinese Government has lately issued orders to the effect that foreign mails will no longer be carried over the Chinese railway lines, except those which are known as "military mails." The order is said to have emanated from the Ministry of Post and Communications in the capital. The outgoing mails of the International post-offices in Tientsin were therefore suspended. The mail situation in China is somewhat peculiar, and does not seem to be quite clear to the business men of the United States. Briefly it is as follows:

At the time when there was no official postal service in China, the foreign governments conducted the forwarding of their mails to the various treaty ports (cities opened by treaties). Usually a postal department was attached to each consulate of the British, French, German, and Japanese governments. Since the establishment of the postal system of the Chinese Imperial maritime customs, the Chinese Government has been anxious to discontinue these offices, but up to now has been unsuccessful in its attempts. The Chinese post-office has never been connected with the postal union, but has transmitted all foreign-mail matter gratuitously over its routes, and has forwarded its foreign mail through the French offices. During the past ten years, however, a most respectable postal system has been built up, which reaches most of the interior cities of the Empire, and apparently with safety, so that there is not now the same necessity for foreign offices as previously.

It has been heretofore customary for Europeans living in the interior of China, or at places where post-offices of foreign nationality were not located, to frank their letters with stamps of their respective nationalities and send them under cover to their post-office in Shanghai. By this means foreign postage was paid at the rate of 2 cents per ounce, while the rate by the Chinese post would be 5 cents per half ounce, and it is this irregularity to which China is objecting, and which she is now endeavoring to regulate by refusing to allow mails of foreign offices to be transmitted over her railways.

Until such time as the matter of the transmission of foreign mails in China is permanently settled, business men in America and other countries must expect delays incident to the promulgation of such new orders as the one just announced.

THE SIBERIAN MAIL ROUTE.

An official notification has been issued that mails intended for the Far East via Siberia are dispatched from London to Russia on the evening of every week day. According to information furnished by the Russian post-office the express trains which convey mails across Siberia leave Moscow on Wednesdays, Thursdays, and Sundays. The mails are sent on from Vladivostok to Japan twice a week, and from Vladivostok to Shanghai once a week. The train leaving Moscow on Sunday connects with the steamship service from Vladivostok to China.

Letters intended for transmission to China, by the route of Siberia, which are dispatched from London on the evening of Thursday should in ordinary course arrive in Moscow in time for immediate onward conveyance by the through service to China; but in order to avoid risk of missing the outgoing mail from Moscow it is advisable to post for dispatch from London on Wednesday. Mails from London and the Continent of Europe reach China via the Siberian Railway in seventeen or eighteen days, and from New York via the same route in about twenty-four days.

ITALY.

NEW ARRANGEMENT FOR MAILS FOR THE UNITED STATES.

Vice-Consul H. M. Byington, of Naples, confirms his recent report to the effect that the minister of posts at Rome intended to arrange for the carrying of mails for the United States on Italian steamers sailing from Genoa and Naples, and adds that on September 15 instructions to accomplish this object were issued by the minister. However, letters which are marked "via England" or "via France" will be sent as addressed. The vice-consul adds that it is therefore of importance that importers instruct their Italian correspondents as to the manner in which they wish their mail forwarded, as the speed of some of the Italian steamers is not all that could be desired.

CANADIAN POSTAGE DISCUSSION.

EFFORTS TO SECURE OLD RATES FOR INTERCHANGE OF PAPERS WITH STATES.

Consul James H. Worman, of Three Rivers, makes the following report on a movement in Canada to secure the former postage rates on periodicals to and from this country:

Newspaper publishers in the Province of Quebec have petitioned the Dominion post-office department to restore the old rates on newspapers and magazines between the United States and Canada, a six months' trial of the new rates having proved the injurious effects to the Canadian press and people.

The Montreal French chamber of commerce has also urged the repeal of the new regulations, and its committee appointed to look into the matter has reported: It was held that any restriction placed on the circulation of Canadian papers in the United States and in other foreign countries would prevent this country from being known and appreciated; that it would tend to neutralize the patriotic efforts of the Canadian press, and that it would unfavorably affect immigration to Canada as well as the repatriation of French Canadians. Persuaded that in the interests of colonization and commercial prosperity the country needed far more advertising than was given to it in the press, the chamber of commerce had requested the federal government to further such advertising by the creation of a commercial museum and the distribution of explanatory guides on the resources of Canada. The committee states also that the circulation in this country of American magazines is of great advantage to trade and industry, both from a scientific and a news standpoint.

CHINESE PICTURE POST CARDS.

HOW AMERICAN COLLECTORS MAY SECURE THEM BY EXCHANGE.

Consul Wilbur T. Gracey, at Tsingtau, sends the following report regarding collectors of picture post cards and stamps in China:

This consulate and others in China are continually importuned by collectors of post cards and stamps in the United States, and for the benefit of these attention is called to a Shanghai monthly magazine called "Social Shanghai" (published by Mina Shorrock, 39 Kiangse road), which contains lists of persons in various parts of the world who are collectors of picture post cards. This list is known as the "China Post Card Exchange List," and so far as I can discover no charge is made for the insertion of names therein. The list has the following heading: "The following desire to exchange post cards with collectors in China. It is desirable on the first exchange to send good quality views and to use Chinese stamps."

The list is edited by Denniston & Sullivan, an American firm, to whom addresses should be sent for insertion.

METAL WARES.

AGRICULTURAL IMPLEMENTS.

BRAZIL.

EXCELLENT MARKET OPENING FOR AMERICAN MACHINERY.

Consul-General George E. Anderson, of Rio de Janeiro, under date of December 4, states that the interest manufacturers of agricultural implements in the United States are taking in the introduction of their wares into Brazil is greatly on the increase, and that there is occasion for it. This leads Mr. Anderson to develop the following points:

If there is one line of American products which is needed more than any other in Brazil it is that of modern appliances for tilling the soil. This fact is recognized by the Government of Brazil and the government of every State of Brazil, as may be seen in the invitation of the Federal Government to American implement makers to display their goods in the Brazilian National Exposition which is to be inaugurated next May—an invitation extended to no other nation for any of its products—and by the favorable tariff rates for such goods. Agricultural implements are admitted free of duty theoretically in Brazil when imported by agricultural societies or planters for their own use, and the tariff on such machinery is low in any case.

The governors of practically every State in Brazil in their annual messages the past year have spoken of the need of modern methods of agriculture and modern agricultural machinery. American implements and machinery are especially favored because the people in Brazil rightly believe that conditions in the United States are more nearly like those in Brazil than the conditions in any other country with which Brazil may deal. American success in agriculture and manufacture appeals to Brazilians almost as success in another State of their own country, so strongly do they feel the similarity of American and Brazilian conditions.

NEGLECTED OPPORTUNITIES.

The welcome for American agricultural goods, therefore, is all that could be desired. Some American manufacturers have taken advantage of this, but others have failed to do so, failing to appreciate the size and nature of the Brazilian agricultural field, the conditions of sale and credit, the need of making goods to conform to special requirements, and even failing to keep their own agreements and follow the ordinary channels of proper business dealing. In the introduction of their goods they fail to appreciate the need of doing business on a broad basis from the start and working for the future rather than for the immediate present.

This disposition has manifested itself in the establishment of agencies and in contracts with agents, in credits, in restriction of advertising; in short, in all lines of the trade. A case in point which has just come to my notice is that of a well-known plow manufacturing concern which made a contract some time ago with a Sao Paulo firm, giving the latter the exclusive agency for the firm's plows in all Brazil. This Sao Paulo firm stands well, so far as I know, in the trade in the State of Sao Paulo, one of the most progressive States of Brazil, but the firm has few, if any, connections in any other parts of Brazil, and is by its very location shut out of prompt and easy communication with the greater portion of the Republic.

The efforts to introduce this plow into other portions of Brazil were so slight that the governor of Minas Geraes, the adjoining State, inquired after the implement as something unknown in his State, expressing a willingness to even go so far as to purchase a lot of the plows for sale to his people. He is met by the statement that an exclusive sale arrangement has been made with a Sao Paulo firm, with whom he must deal. I have been over a considerable portion of his State and saw not a single plow of the sort in question in the State. His State is not only one of the largest in Brazil, but it is, all things considered, probably the richest in the country, and contains in its own borders one-third of the population of the entire Republic. Such an arrangement as this firm made with the Sao Paulo agents was probably profitable for the time being, but it has unquestionably held back the development of its trade over all Brazil. It was an agreement made without proper appreciation of the possibilities of the firm's trade in Brazil, of the size of the country, and of its agricultural condition.

AWAKENING FROM PRIMITIVE METHODS.

The size of the field for developing the sale of modern agricultural implements in Brazil can hardly be overestimated. In the first place it should be realized that Brazil is nearly as large as the United States. While the country is largely undeveloped there is more or less settlement in all the States, and in some agriculture has developed to a point where the country is producing some of the largest crops in the world. Its coffee crop represents on an average about four-fifths of the entire coffee supply of the world. Its sugar crop is large. Its cotton crop is large. Its production of rice is growing amazingly. Its crop of corn is considerable. With all this vast territory, however, with all this actual present production and evident possibilities, modern agricultural machinery is almost unknown in Brazil. Up to within the past five years a modern plow of the commonest sort was absolutely unknown in nine-tenths of the cultivated territory—one might almost safely say in practically all of it.

In a recent trip through Minas Geraes, my attention was called to a number of fields which had been plowed—"broken up"—by a foreign plow. As a matter of fact a progressive American farmer would have been doubtful whether there was occasion for pride in the condition of any one of the fields, but their condition was commented upon with the liveliest interest, as representing the most advanced form of agriculture in that part of the country. The method of cultivation which has always obtained in that country and which still obtains in nearly every portion is for a farmer to select a portion of the actual wilderness which he calls his farm, set fire to the timber and underbrush upon it and follow the fire with a heavy hoe, with which he digs hills for his corn, his cotton, or his cane. His crop planted, he waits for the result of the struggle between the crop and the natural growths on the land. If the crop succeeds, which by reason of the destruction of other plant life by fire and because of the natural and virgin fertility of the soil is quite generally the case, he plants another crop.

When, in the course of time, the natural growth of the soil succeeds in crowding out the planted crop, the planter burns the timber and brush of another portion of his domain and commences anew, allowing the land formerly cultivated to lie fallow and grow new timber and undergrowth to be burned later when the land is planted anew.

LACK OF PRACTICAL EXPERIMENTATION.

This wasteful process is not the exception; it is the rule to-day. It is due to no lack of knowledge or enterprise on the part of the governing authorities or of the better-educated classes. I know of no country where the government concerned is making more heroic efforts to introduce modern methods of cultivation and industrial and agricultural development than Brazil is making at the present time. So far, however, there has not been proper cooperation on the part of manufacturers of agricultural machinery of the sort fitted to cope with Brazilian conditions.

The more progressive planters of the country have gone from the extreme of improper cultivation to the extreme of advanced cultivation. They have bought steam plows which were unsuited to the country; have bought cultivators impossible to use on their farms. They have not had practical cooperation and instruction in the use of such implements and machinery as are suited to their land and there have been failures, which have resulted in a return to old methods and uncertainty, unwillingness to risk more changes, distrust of modern methods as applied to Brazil, and other conditions which go with financial losses experienced when they might have been avoided. Much of this trouble is experienced everywhere where new appliances and new methods are introduced, but much of it could have been avoided by a little more attention on the part of agricultural implement makers and salesmen, a little less of immediate self-interest on their part and a broader conception of what the implement field in Brazil really is and how important it will be in the immediate future.

The extension into the States of Rio de Janeiro and Minas Geraes of the improved methods of cultivation now fairly common in the coffee estates of Sao Paulo will flood the world with Brazilian coffee. Entries so far this season indicate that Brazil's actual production of coffee last year was far in excess of the 20,500,000 bags entered.

The improvements in coffee production are merely illustrative of what is to be expected in other lines as better methods are introduced. The facts are appreciated by state and other authorities in Brazil, and this is the explanation for their active, even extraordinary, efforts to introduce modern machinery. The situation merits more than ordinary attention on the part of American manufacturers. Where there is so much willingness on the part of a people to investigate with a view of buying, there certainly should be some activity shown on the part of the sellers.

SELLING SYSTEMS—CREDIT NECESSARY.

Nearly all American agricultural implements sold in Brazil at the present time are sold by German, English, or Brazilian houses, and by men who have little or no knowledge of how the implements and machines are used and no knowledge of what their use actually means in the country where they have been developed as the result of study and practical experience. The same conditions obtain in the trade in all lines from plows to cotton gins. The only improved cotton gin I know of was put in by an American sent out by a Birmingham, Ala., house, who sold the machine to a Brazilian who had visited the United States and hunted up the machinery for himself, instead of having had its merits shown him by a live agent, as should have been the case. The American agent found that other machines could be sold readily at prices which would enable the concern to send a man out with each machine sold.

Such conditions certainly merit permanent agencies upon a substantial basis. The field for the sale of agricultural implements in Brazil is too great to be handled longer upon a limited plan. In agricultural implements proper, in explosive engines, sugar-making machinery, cotton gins—in short, in all lines of modern helps to industry and agriculture—there is a splendid field which does not represent the conditions of a day. It should be approached with a view of spending some money now to acquire big business later. The field needs to be studied by practical men who know the agricultural implement business thoroughly, rather than by occasional agents in Brazil who have never seen such machines as are used in the United States.

Special conditions must be met. Plows, for instance, must be suited to hilly country. Alcohol engines will probably be more acceptable than gasoline engines, because many sugar makers in the interior manufacture their own alcohol. Implements and machinery, as a rule, should be of iron rather than wood, for in Brazil white ants and other insects destroy wood articles rapidly in spite of precautions. Complaints against wood in machinery have come particularly from cotton-machinery dealers and users.

Credits must be liberal. Brazilian dealers and planters will be ready to furnish abundant references, but their system of crop handling calls for credits. These are but few of the many points to be considered in this trade, which the proper sort of agents will properly present, and which must be regarded if this immense field is to be properly developed by American manufacturers.

NATAL.

GOVERNMENT PURCHASES STEAM PLOWS FOR RENTING TO PLANTERS.

Consul Edwin S. Cunningham writes from Durban that recently the Natal government purchased two steam plows, at a cost of approximately $35,000, to be hired to planters and farmers over the colony who desire to take advantage of the facilities offered for expeditious plowing of their lands. The consul continues:

In October an opportunity was given for applications to be made for the use of these plows, the government offering the services at 10 shillings ($2.43) per acre on land located in the midlands and upcountry and 15 shillings ($3.65) per acre for plowing lands located on the coast. These rates are only experimental, and experience may necessitate their modification. These plows have now been in use almost a month and the result is said to be exceedingly satisfactory; so much so that the minister of agriculture (under whose direction they were imported) is reported as expressing the regret that there were not ten, instead of two, to be let on hire.

This mechanical means of cultivating the lands has at this time a value in Natal above that attributed to it in other parts of the world, where live stock is obtainable for draft purposes. In this colony the scourge of tick fever has swept the country, and in many districts no cattle are found, the herds and teams having been killed by the disease, or under the quarantine laws the healthy animals have been slaughtered to prevent the further spread of the disease into contiguous territory, leaving the farmers without means of plowing their lands.

The formation of the colony is characterized by successions of hills and valleys, but with few exceptions the undulation of the arable land is so easy and gradual that cultivation does not present any serious difficulties. In such a state mechanical power is easily introduced to do the plowing which formerly had been done by cattle. These plows, purchased by the government, when proved to be adaptable to Natal will be the means of effecting the sale of several plows to large sugar and tea planters, and perhaps to other farmers as well. They will serve as an excellent advertisement for the British manufacturers of those bought by the government. I understand that the expense of a piece of machinery costing from $16,000 to $35,000 (which are the prices of those made by the firm manufacturing those bought by the government) is not to be incurred by every farmer; but sugar planters and groups of farmers will, I believe, be buyers, as it is well within the means of several of these, and some of them have expressed themselves to that effect.

Before an American plow—or any other, for that matter—can be successfully introduced the purchasers must be convinced that it will make good all that is claimed for it. The manner of introducing it to the planters must be left to the seller. Should our manufacturers desire to take the matter up with a local dealer in agricultural implements, the list forwarded [and placed on record with the Bureau of Manufactures] will furnish them their names, but it is very doubtful if such a course would be successful.

SOUTH AFRICA.

SALES OPENING FOR STEAM PLOWS IN MOZAMBIQUE AND THE TRANSVAAL.

In relation to the demand for steam plows and the conditions of the ground to be plowed in Mozambique, Consul W. Stanley Hollis, of Lourenço Marquez, writes:

The ground to be plowed in this district is river bottom land, the soil of which is principally alluvial mold with small quantities of clay and sand, but entirely free from stones. The higher ground is generally covered with a rank grass that grows in bunches of small size but does not form a turf or sod. In the dry season, after this grass has been burned, the soil looks quite bare, only little charred knobs of stubble showing here and there; and this soil, on account of the clay contained in it, soon cakes and dries into a hard mass under the hot rays of the sun. On the lower ground a dense growth of tough bamboo-like cane that grows to a height of over 10 feet is often found, and it will take very strong plowing machinery to break up the stubble and the mass of roots left after the cane has been cut or burned down.

As none of the local agriculturists know anything about steam plows, the manufacturer who wishes to sell such implements here must send out an outfit in charge of a skilled operator and demonstrate just what his plowing outfits can do. They can not be sold in any other way.

Within the last few weeks the Chai Chai municipality has arranged with an English concern that has been giving demonstrations in the Transvaal to have one of its steam-plowing outfits taken to the Limpopo Valley near Chai Chai, and if this outfit works well the municipality will probably purchase it. If an American house will send out a first-class steam-plowing outfit, in charge of an expert operator, a prominent agriculturist here who has become interested in American farming appliances will do everything he can to help him demonstrate what the plows can do and to effect sales.

Not only are steam plows required in Zambesia, in Inhambane, in Gazaland, and in the Lourenço Marquez district, but there are excellent openings for their introduction in the Transvaal, where the government, through the medium of a land bank that is being opened, is about to lend approximately $12,000,000 to the Transvaal farmers to enable them to purchase modern agricultural machinery and implements. There are no customs duties on steam plows in Portuguese South Africa.

RUSSIA.

GROWING MARKET FOR AGRICULTURAL MACHINERY IN SIBERIA.

According to a statement published in the principal commercial journal of Russia, and supplied by Consul-General Richard Guenther, of Frankfort, the value of agricultural machines and implements annually imported by Siberia amounts to about 10,000,000 rubles ($5,150,000). The imported articles are chiefly supplied by German and American manufacturers, being far superior to those made in Russia. The Russian manufacturers have, through their association, presented a number of requests to the Russian Government for assistance to enable them to better compete with foreign manufacturers.

Last year the number of depots for the sale of agricultural machines and implements in Siberia has increased to 52—their sales amounting to 3,400,000 rubles. In 1906 there were but 36 of these establishments, whose sales in that year totaled 2,567,161 rubles. The immense area of Siberia is as yet but little exploited for agricultural or mining purposes. The Government promotes the migration thereto of farmers now living in the less productive parts of the Russian Empire; consequently Siberia will eventually become a big market for the sale of agricultural implements and machines.

MOTOR VEHICLES.

BELGIUM.

NEW SPEED INDICATOR WHICH HAS BEEN SUCCESSFULLY TESTED.

Consul H. Abert Johnson, in the following report from Liege, describes a new automatic mechanism, to be controlled by officers of the law, for the accurate registry of the speed of automobiles:

All of the cities and villages of Belgium have endeavored to regulate in a satisfactory way to all concerned, the matter of a speed limit within their respective jurisdictions, and 10 kilometers (6.21 miles) per hour as a maximum speed allowance has been quite generally established throughout the entire Kingdom.

In cases in which the owners of autocars and chauffeurs have been apprehended on the charge of exceeding the speed limit, it has been extremely difficult to establish accurately the precise rate of speed at which the vehicle was traveling, and for purposes of investigation in case of accident it is often of the utmost importance to know the exact speed at which a vehicle was traveling at the time of the accident, which under existing conditions can only be ascertained approximately from the testimony of persons who may have been eye witnesses of the disaster.

DETAILS OF THE APPARATUS.

The demand for a reliable and accurate speed register has been met by a Belgian inventor, who has devised an apparatus which, in the experimental trials now taking place, gives entire satisfaction. This apparatus consists of a box placed in the forward part of the vehicle, directly in view of the chauffeur, and containing certain machinery that is connected to the axle by a flexible rod that transmits each revolution of the wheel to the registering apparatus. The mechanism is arranged to mark three different rates of speed; that is, 15, 30, and 60 kilometers (9.32, 18.63, and 37.26 miles) per hour, indicated respectively by a white, red, and blue disk. Thus when the car is running in a town where the speed limit does not exceed 10 kilometers, the white disk is the one that should be visible; if running in the country, where the speed limit is 30 or 60 kilometers, then either the red or blue disk should be seen. In this manner the moment a car is near enough to permit of the disk being seen the rate of speed is known. If so desired the car can be stopped and the rate of speed, as indicated by the disk, can be verified by an examination of the register, which is arranged to indicate by means of an endless revolving ribbon connected with the mechanism, the exact rate of speed. This perforated band or ribbon may be demanded by the controlling authorities as often as may be deemed advisable, say once every month, and all indications of having exceeded the speed limit, which the ribbon would have registered could be noted.

Of course the box containing the registering mechanism would be closed and sealed in such a manner that neither the chauffeur nor the owner of the car could open it nor take out the registering ribbon without the intervention of the authorities having control of such matters.

UNITED KINGDOM.

EXTENSIVE TRIP OF INDUSTRIAL VEHICLES TO TEST RELIABILITY.

In noting that a procession of commercial motor vehicles—52 in number, and of all kinds and sizes—recently appeared on the streets of Nottingham, Consul Frank W. Mahin comments on the increasing construction and use of these vehicles in Great Britain:

Industrial motor vehicles are now annually produced in this country to the number of about 6,000, with a value of about $10,000,000. To draw general attention to them and in the hope thereby to increase their use and output, the Royal Automobile Club organized a "reliability trial." This took shape in a tour through important parts of England, beginning and ending in London. From London 56 vehicles started, traveling thence to Bristol, Birmingham, Liverpool, Manchester, Leeds, Sheffield, and Nottingham, and thence via Bedford to London. Only four vehicles dropped out during the journey. The total distance traveled is stated as about 1,000 miles. A month was consumed in the trial—seventeen days in actual motion, the rest in exhibition at the stopping places. The regularity of the running and the general utility of the vehicles otherwise demonstrated, it is said, far exceeded the anticipation of the promoters. Most of the vehicles were not entirely new, and had apparently been in use by large producing firms, and were loaded with furniture, boxes of crackers, barrels of beer, cases of tea, mineral waters, typewriters, etc. The only drawback to a complete trial of the vehicles was the continued fine, dry weather. The promoters wanted rain to test the reliability of the cars under adverse conditions.

Petrol was chiefly used, though paraffin and steam coal were required for some of the heavy vehicles. Repairs on the way were allowed, but a car was disqualified unless ready to proceed by midday after a night in a repair shop. The vehicles, with a few exceptions, were shod with solid tires, and were driven by side chains, generally the silent self-adjusting chains with triangular links.

After the conclusion of the trial, prizes were awarded to the vehicles of greatest merit. Six years ago the Royal Automobile Club promoted a distance trial of "pleasure" motor cars, with the result of much extending their use. It is believed that the trial of the industrial type has proven their utility and will greatly increase the demand for them.

GERMAN WATCH TRADE.

AMERICAN PRODUCTS, OWING TO SUPERIORITY, GROWING IN FAVOR.

Vice-Consul William W. Brunswick, of Barmen, reports as follows concerning the watch trade in Germany and the outlook for American watches and watch cases therein:

Germany manufactures very few high-grade watches. Except in the little village of Glashütte, in Saxony, there are practically no good watches produced. For this reason Germany's importations of American watches are growing. Gradually the lever-escapement style is supplanting the cylinder watch in Europe, although the most of the watches for women and workmen are of the cylinder type. The efforts of the American manufacturers to place their products on the European markets are bound to succeed, judging from the results attained in Germany. It is in connection with American gold-filled cases, which are meeting with increasing sales, that American manufacturers are finding a market here for their watch movements. As American movements are made in factories devoted exclusively to such production, and watch cases in other factories where no other part of the watch is made, it is at once understood that the complete American watch is the product of two distinct concerns.

In Germany gold cases of any carat fineness may be sold, but when of 14 or 18 carats the fineness must be indicated in thousandths, 14 carats being 14/24, or 0.585; 18 carats being 18/24, or 0.750. The Imperial German Crown and the Sun stamps must also appear in such gold cases. Any gold case less than 14 carats in fineness must not be stamped in any way to indicate the fineness of the gold employed, and the penalty for violating the law is severe. Of such unstamped gold cases that of 8-carat quality has found a ready sale, and it is with such goods that the American gold-filled cases are now competing. The advantage of the American gold-filled cases over those of low-carat fineness and over those of 14 and 18 carat quality, but of light weight, was long ago pointed out to German watchmakers by the founder of the Glashütte Trade School for Watchmakers.

AMERICAN CASES AND MOVEMENTS.

It is only recently, however, that the American filled case has been energetically placed on the market here. Formerly American manufacturers sold them to Swiss makers of movements, but the latter had no particular interest in reselling an American product, hence American movement and case companies are now working hand in hand to sell the complete watch here. That headway is being made is perhaps indicated by the desire on the part of Swiss manufacturers of low-quality gold cases that the 8-carat cases should be stamped also. Eight carats equal 8/24, or 0.333, and they desire to be allowed to stamp the cases with the quality expressed in thousandths. They appear to think that if such cases bear an official stamp the public would take them in preference to the American gold-filled cases. This is undoubtedly true so far as the uninformed are concerned, as many are naturally not experts in matters pertaining to the watch trade, therefore American manufacturers have just as acute an interest in having the present laws retained as the Swiss have to see an alteration which would result to their advantage.

The popularity which two high-class American movements are gaining is due to the accuracy of the machine-made parts and the ease of repair, because such parts are made on the interchangeable system. It must be borne in mind that the German watchmakers have not carried this interchangeability of movement parts to the extent deemed absolutely essential in the United States; hence, in case of repair, a new part must usually be made by hand, whether it fits depending entirely upon the skill and ingenuity of the repairer.

The American companies conduct their business in Germany through managers sent from the United States, selected with regard to their knowledge of the watch trade and the German language, and the business is conducted with typical American energy. Where other American trade efforts have failed the cause was solely attributable to the fact that the representatives knew nothing whatever of the language or the proper methods for the introduction of their goods.

REFRIGERATING APPARATUS.

FRANCE.

A REMARKABLE INVENTION PERFECTED IN A FRENCH CITY.

Consular Agent J. B. Cognet, of Cannes, contributes the following report on an improved French ice-making machine:.

In 1904 the consulate at Nice made a report with reference to a new ice machine which had been invented at Grasse. In view of the fact that the publication of this report attracted a great deal of attention and resulted in requests for further particulars from nearly four hundred American correspondents, I consider it of interest to give a brief sketch of the present status of this remarkable invention.

At the time the previous report was made, only very primitive working models existed, and while they fully demonstrated the excellence of the invention they were not such as to prove, from a commercial point of view, the absolute practicability of the machine. The inventor, therefore, took in collaboration with him the president of a prominent French engineering firm, with the result that new patents were taken out by them, and the machine is now being manufactured at Epinal. I am also informed that two of these machines are now being exhibited in New York.

The invention is a rotative compression and automatic machine, regulating itself to all speeds, whatever may be the temperature of the condensing water used. The important feature is a cylinder in which the chemicals are sealed (the latter not requiring renewal and lasting as long as the machine itself), and which, revolving in water, produces the ice. It can also produce cold air.

The machine has no joint piece, no pressure gage, no suction or regulating valve, and no pipe, tap, or circulating pump. It requires neither steam nor fuel, and will work in water reaching even 113° F.; it saves 98 per cent of cooling water and 70 per cent of motive power as compared with any other freezing system known. The smaller models may be worked by hand. It is claimed that this is the first ice machine ever invented which does not require to be fed with chemicals, and its simplicity, durability, and general practicability would seem now to have been fully proven.

GERMANY.

OPERATION OF A SIMPLE AND INEXPENSIVE APPARATUS.

Reporting from Hanover, Consul Robert J. Thompson says that what promises to effect a considerable economic result in the future physical comfort and health of man is a newly invented freezing and refrigerating apparatus, a model of which has recently been privately exhibited in that German city, and the operation of which he describes:

The device is an extremely simple and inexpensive affair, costing perhaps not more than $1 to manufacture. It consists of a double-wall tin vessel with a capacity of 5 gallons or more. There is a hollow space between the two walls, or inner and outer vessels. This space completely surrounds the inner compartment and is about an inch in width. By the graduated admission of carbonic acid to this surrounding chamber at the bottom of the vessel, and from this surrounding chamber into the vessel proper at the top through a cross-armed tube, the contents of the vessel are frozen quickly and completely. Water is changed into ice in the space of sixty seconds. Meats, fruits, bottled beverages, such as beer, champagnes, wines, etc., may be chilled or frozen in a few seconds. This effect is produced by the sudden great reduction of temperature caused by the rapid expansion of the carbonic acid, which is admitted from an ordinary carbonic acid reservoir. The invention is at present designed for hotels, restaurants, hospitals (particularly field hospitals), and the ordinary household.

SAFES IN BRAZIL.

WHY THE TRADE IS CONTROLLED BY EUROPEAN MANUFACTURERS.

Consul-General George E. Anderson, of Rio de Janeiro, furnishes the following report covering the trade in safes in Brazil and how the American manufacturers can win a share thereof:

With the entire rebuilding of a large portion of the business district in Rio de Janeiro, and in line with notable improvements in all Brazilian cities, there has been a large increase in the trade in safes in this Republic. All dealers in safes report largely increased sales. Such goods are handled almost exclusively by German, Portuguese, and Brazilian houses and by several English concerns. The preference of Brazilian business houses is for German and Belgian goods. American safes are imported only by people who have become acquainted with their special merits by visiting the United States. American safe men who have attempted to introduce their goods have met with little success, for three reasons, all of which are common to other lines of the American export trade: (1) American safe men have confined their efforts to correspondence, catalogues, and commission offers, while their competitors have had men and goods upon the spot; (2) American safes are too heavy to meet Brazilian requirements, and this, since the tariff is based upon weight, leads to higher customs duties thereon; (3) American safe men have refused to make goods to conform to the market, and have in consequence not only paid higher duties than their competitors, but have also shut themselves out of trade otherwise.

On a recent trip to Diamantina I found a European safe in the office of the principal American mining concern. The manager of the company said that he much preferred American safes, but that it was impossible to get one into that country, because all goods had to be brought in on mule back, or at least by wagon, over a long, rough, and even dangerous trail. The proportion of the trade in safes in

Brazil which goes to out-of-the-way and almost inaccessible places is large, and will be larger as mining, power, colony, and other enterprises are developed.

TRADE SUGGESTIONS.

An American concern to be successful should not only have an agent in each principal South American center, but should furnish him with a stock of goods, so that as a safe is sold another may be ordered by cable to take its place. In spite of weight and other disadvantages, I believe a good trade could be done in Rio de Janeiro in American safes with such representation.

As a rule Brazilian buyers give less attention to price than to other points. If they could see American safes, have their good qualities pointed out by good salesmen, and know what the cost would be in Rio de Janeiro, the matter of a few milreis more or less would not be very important. American safes are different from what Brazilian business men are accustomed to. Their merits must be presented as entirely new matter. American safe men should realize that the best modern safes are practically unknown to most South American business men. Even the banks do not have safety appliances and conveniences which compare reasonably with such things in the United States, and many of the old, conservative, and withal the more substantial houses are still doing business with the appliances and according to the methods of fifty years ago. For the modern safe trade the field is very largely a new one, but long-distance work will not succeed.

TRADE OF UNITED KINGDOM.

INCREASED EXPORTS OF MACHINERY, CUTLERY, AND HARDWARE.

Consul John L. Griffiths, of Liverpool, supplies the following statistics covering the exports of machinery, cutlery, and hardware from the United Kingdom for the eight months ended August 31, 1907:

As compared with other products, the exports of machinery, cutlery, and hardware from the United Kingdom have fully maintained their proportional increase. The exports of the several classes of machinery during the first eight months of 1907 and the principal countries to which they were exported were as follows:

Locomotives, total, $10,809,635, of which $5,858,141 went to South America, $2,982,457 to British India, $284,625 to Spain, $145,328 to Straits Settlements, and $168,967 to Australasia. Steam agricultural machinery, $3,531,154, of which European countries took $2,311,231; South America, $403,102; British India, $142,145, and Australasia, $132,740. All other steam machinery, $10,824,568, of which European countries purchased $2,983,281; British India, $1,633,450; South America, $1,540,364, and Australasia, $814,110. Total steam machinery, $25,165,357; total in 1906, $21,316,248; increase, $3,849,109.

AGRICULTURAL AND OTHER MACHINERY.

Agricultural machinery, not steam, $3,871,597, the share going to European countries amounting to $2,603,258; South America, $472,153, and Australasia, $165,099. Sewing machines, $5,756,096—

European countries taking $4,808,032; South America, $225,776, and British India, $229,139. Mining machinery, $2,760,577—British South Africa taking $860,910; British India, $274,716; South America, $274,108, and Australasia, $308,575. Textile machinery, $25,395,064, of which Germany purchased $3,043,322; France, $2,768,858; Russia, $1,258,569; Netherlands, $528,252; other European countries, $6,054,058; total to European countries, $13,653,059; British India, $5,763,634; China and Hongkong, $3,654,364; United States, $2,075,390; Japan, $1,277,125; South America, $1,200,006, etc. Electrical machinery exports amounted to $3,142,213. All other classes of machinery, $33,839,384, of which European countries took $12,013,511; South America, $4,104,318; British India, $4,490,576; Australasia, $2,524,492, and British South Africa, $1,406,697. Total machinery, other than steam machinery, $74,764,931; total for 1906, $63,274,957; increase, $11,489,974; grand total exports of machinery, $99,930,288; grand total in 1906, $84,591,205; increase, $15,339,083.

The following statement shows the exports of cutlery and hardware for the first eight months of 1907:

Whither exported.	Cutlery.	Hardware.	Whither exported.	Cutlery.	Hardware.
Russia	$2,818	$178,376	Argentina	$81,487	$355,981
Sweden	2,794	144,716	British South Africa	138,359	509,736
Germany	62,956	409,892	British East Indies	178,117	1,342,001
Netherlands	9,204	248,788	Australasia	536,758	1,204,614
Belgium	11,343	157,371	Canada	347,757	201,088
France	83,120	319,336	All other countries	467,773	2,196,628
Spain and Canaries	24,737	125,961			
United States	279,304	115,638	Total	2,438,580	8,231,436
Cuba	23,940	81,808	Total for 1906	2,215,786	7,529,477
Chile	69,849	177,744			
Brazil	168,214	459,858	Increase	222,794	701,959

HARDWARE SUPPLIES.

CHINA.

FLY TRAPS, SCREENS, AND WIRE NETTING WOULD SELL WELL.

Consul William T. Gracey, of Tsingtau, reports that, much of the dysentery prevailing in that Chinese city being charged to the house fly, the effort being made for its destruction has caused a large demand for fly traps, screens, fly paper, and wire netting, in which connection he writes as follows:

The governor of the colony is urging everybody to use all precautions by screening their windows, garbage cans, etc. Wire screening, such as galvanized and plain-painted wire cloth, is commanding considerable sale. In local shops it sells for 30 cents gold per square meter (10.76 square feet). Many residences are being screened, and large quantities are being used for the manufacture of meat safes. Even the Chinese in the treaty ports are using the netting for their residences and restaurants, and for many purposes for which it is not used in the United States. It is now used for screening sedan chairs, and has proved to be better and more satisfactory than the cloth screening. Official chairs and those used by the mandarins and literati are either green or blue, while those used by common people are black. A commercial traveler handling wire netting, etc., and passing from port to port with a large supply from which to draw, say, at Shanghai, Hongkong, or Tientsin, would probably do an excellent business. [Firms in Tsingtau handling the goods described are listed at the Bureau of Manufactures.]

SPAIN.

SHELF GOODS MAINLY COME FROM EUROPEAN FACTORIES.

For the benefit of the American hardware trade, Consul R. M. Bartleman states that there is not one jobber in the shelf hardware line in Madrid. Hardware dealers in the Spanish capital carry machinery of different sorts, plumbing supplies, heaters, stoves, and agricultural tools. They all tell the same story, that they draw their stock from European factories, and from Hamburg and London commission merchants, with some little from jobbers in Barcelona. [A list of machinery and hardware dealers at Madrid, Barcelona, and Seville is on file at the Bureau of Manufactures.]

PANAMA.

HOW MARKET FOR BUILDING MATERIALS COULD BE DEVELOPED.

Former Vice-Consul-General F. L. Rockwood, of Bogota, writes to the Bureau of Manufactures from Panama calling attention to the market there for steel laths and wire netting for construction purposes, owing to the extending use of cement. He states that trade in those lines and in Portland cement could be developed to a much greater extent if quantities of the right materials were on hand, thus avoiding a delay of six to seven weeks in waiting for an order to be filled from the United States.

RADIAL MARINE ENGINE.

NEW ENGLISH INVENTION COMPETES WITH THE TURBINE.

The model of an engine invented by a Liverpool engineer and recently exhibited in that city attracted a great deal of attention, which leads Consul John L. Griffiths to send the following particulars concerning it:

It is described as a radial engine, and it is stated that in power and in economy in space and fuel it is superior to the turbine engine, and that it possesses the further advantage—especially for steamships—of reversing by almost instantaneous action. The engine is very simple in construction, the following statement being made in relation thereto:

> All that is to be seen is a small cylinder securely bolted to a bed plate with a cylinder cover at each end and a shaft passing through two covers and supported on either side by a bearing. On the top of the cylinder is a small steam chest with a control valve. The important principle is that the steam pressure is direct on the piston from the boiler. The leverage is direct and unvariable, the part of its mechanism affected by the steam being always at the greatest distance from the shaft center.

The engine has been designed primarily for marine work, and it is claimed by expert engineers who have examined it that it can be applied to any great ocean steamer, and that as compared with the turbine engine there would probably be a considerable saving in space and weight and a saving of at least 25 per cent in fuel. The small engine used in the test produced 30 revolutions per minute with 5 pounds of steam, 80 revolutions with 10 pounds, 200 revolutions with 15 pounds, 450 revolutions with 30 pounds, and 1,000 revolutions with 50 pounds. The inventor claims for this engine one-third more power than any other existing engine of the same piston area. It is thought that the radial engine, if applied to the railway service, would very largely increase the power of the present locomotives. It can be fitted to any axle. The model has been examined not only by representative English engineers but by engineers from other countries, and they have expressed the opinion that when the engine is built on a large scale it will prove a most useful and valuable invention and capable of very wide application.

SILVERWARE IN CHILE.

AN EXCELLENT MARKET FOR AMERICAN GOODS.

Replying to a Connecticut inquiry about the market for silverware in Chile and the chances for American goods, Consul Alfred A. Winslow, of Valparaiso, states that silverware of all kinds and all grades is in general use in all the more important centers of that country. The demand is on the increase, and there should be a good field for American ware, which is well regarded. According to Chilean Government reports the United States furnished no silverware in 1904, and but $240 in 1905 out of a total importation of $10,000, while in 1906 the United States contributed $52 worth out of $8,524. From statements of dealers in silverware and the amount displayed in the store windows it is apparent that 1907 will show a greatly increased sale and that the United States will show a remarkable gain. Nearly all the silverware has heretofore come from England and Germany, a portion of which was of American manufacture, sold through the foreign agencies in those countries. The duty on silverware is 35 per cent on a comparatively low valuation. [A list of dealers is filed with the Bureau of Manufactures.]

MINES AND MINERALS.

THE WORLD'S OUTPUT.

BRAZIL.

PRESENT SOURCE OF THE WORLD'S SUPPLY OF BLACK DIAMONDS.

The active American interest in the black diamond trade, which is supplied almost wholly from Brazil, and for which the United States is the largest market, renders timely the following report from J. P. W. Rowe, who at the time it was written, about a year ago, was vice-consul at Bahia:

Ever since the discovery of these precious stones in this district, this business has been quite a monopoly in the hands of native firms, who have associated themselves with French and German Jewish firms in Paris and London. Because of the fact that this is an article that can be easily smuggled out of the country without paying the export duty, which was 7 per cent on the official value declared by the state customs house, nearly all the parties interested in this business evaded the duties, with the result that the governor of Bahia was forced to alter the existing export taxes, and formed a new law under date of August 25, 1905, which reads:

> Fifteen thousand milreis [exchange at 3 milreis per $1 makes the amount equal to $5,000] for each firm, office, or merchant who deals for his own account or for account of a third party in diamonds or carbons in their rough state.

Besides this State tax, interested parties must pay the municipal tax, which amounts to 7,000 milreis ($2,333). Complying with this regulation diamond merchants can ship their goods free of export duties.

GOVERNMENT EFFORT TO SECURE MORE REVENUE.

It is generally calculated that this port ships annually about 12,000,000 to 14,000,000 milreis worth of diamonds, and the State should receive an annual revenue therefrom of about 84,000 to 98,000 milreis, and the governor thought that by taxing the four or five diamond merchants with an annual tax of 22 contos each (1 conto=1,000,000 reis or $333⅓) irrespective of the amounts they shipped, he would secure the yearly revenue of which the State was being deprived. When this law came into force the diamond merchants at once met and combined to form one firm, permitting it to be the only shipper, thus prorating the cost of the annual tax of 22 contos. Five firms joined the combine, and one remained out, refusing to comply with the new regulation. Although each firm works independently, they all combine as to the price limits they send to their buyers, who live in the interior diamond district. This district is about 267 miles from the city of Bahia, and can only be reached in four days.

The mining methods employed are of the crudest nature, and the work is all done by native miners. The diamonds and carbons are found in a gravel, known as "cascalho," which is obtained on the sides and slopes of the Sincora Mountains and in the Paraguassu River bed and tributaries. Owners and lessees of diamond lots generally allow well-known miners to work their properties, who receive a return of one-fifth to one-fourth of the value of their finds. The former generally buy in all the precious stones themselves and sell them either on the spot to the diamond buyers who represent the Bahia firms, or the stones are shipped to Paris or London for their account, or on joint account with the firms established in Bahia, with their head offices at home. They receive from these firms from 80 to 90 per cent of the value of the invoices, and the balance is paid after the goods are disposed of.

LARGE PURCHASES—MARKET PRICES.

The buyers are always well supplied with cash from the firms in Bahia, and purchases effected by one firm alone often amount to over 300,000 milreis ($100,000) in one month. The following were the limits or prices given by the firms in Bahia to their buyers in the interior in the spring of 1906:

CARBON.—First quality, weighing from 6 graos to 120 graos, price 31,000 reis per grao; weighing from 120 graos and upward, price 30,000 reis per grao; second quality (porosos), 15,000 reis per grao; (crystallino), 10,000 reis per grao.

BALLAS BROKEN PIECES.—Of 6 graos upward, 10,000 reis per grao; of 4 graos, 20,000 reis; of 3 graos, 12,000 reis; ballas fine for "fundos" (small and imperfect stones), price 2,000 reis per grao.

BALLAS, OR BORTS.—First quality, white, from 6 graos and upward, 30,000 reis per grao; colored green or blue, from 6 graos upward, 25,000 reis per grao.

DIAMONDS.—Bons, good, sound, well-formed stones, regulating, 2 graos, viz, 35 stones to the oitava, 17½ carats, 860,000 reis per oitava; stones of 6 graos, each 20,000 reis per grao to 8 graos; 4 graos, each 16,000 reis per grao; 10 graos, each 25,000 reis per grao to 16 graos; fazenda fina (small fine stones of different colors), 5,500 reis per grao, or 396,000 reis per oitava; vitrie or vidrilhos (small, bright, good-shaped stones), 7,000 reis per grao.

FUNDOS.—(Small, badly colored and imperfect stones), 1,500 reis per grao.

NATIVE WEIGHTS.—One oitava is equal to 17½ carats. One oitava is equal to 72 graos.

The foregoing prices were those in the mining districts. The milreis is worth 33⅓ cents, while 1,000 reis equal 1 milreis.

If any foreign firm or strangers to this district wish to secure a part of the diamond trade, they should send out an expert who can work in conjunction with a house which knows the diamond district and can introduce him to good connections in the interior. The present Government is most anxious to bring new capital into the country, and provided those entering are willing to comply with the State laws, they will receive every assistance that may lie within the powers of the authorities. If first-class machinery were erected and mining carried out in a proper and scientific manner there is a very good return awaiting the proper development.

Good lots can still be acquired at a reasonable lease either from the Government or from private individuals who hold large tracts of diamond-bearing lands, and who are not interested in the combine. These parties often dispose of their goods at low figures to the buyers, as there is such a restricted outlet for the finds in this country.

Labor in the diamond district is rather expensive, a common laborer generally receiving from 2,000 to 3,000 reis (67 cents to $1) per day, but provided mining is carried out in a proper manner good native laborers can be secured from the northern parts of the state at 1,000 to 1,500 reis per day (33 to 50 cents) provided they receive constant work.

APPLICATION FOR GOVERNMENT LEASES.

Diamond and carbon lots measuring from 484,000 to 29,040 square meters (1 square meter = 10.754 square feet) can be leased from the State government, by making a written petition to the director of the district at Lencoes, stating the lot they wish to obtain. This petition is published in the district for thirty days, and it is then put up for auction and sold to the highest bidder. These leases generally run from 500,000 reis to about 10 contos per annum. The properties can be leased for a period of either one year or ten years, an increase of 50 per cent on the price being paid at every renewal.

All the most easily worked and the richest lots are already secured, but these can always be obtained by renting them from the present owners, who prefer to receive a fixed sum annually than to allow miners to work their claim at 20 to 25 per cent of their finds. The district is generally not healthy on account of the constant overflow of the Paraguassu River, causing malarial fever of a very bad character in many districts.

All buyers in the interior are obliged to purchase entire parcels from the miners or dealers, as the latter will not allow the parcel to be divided by the selection of only the good stones and the rejection of the inferior qualities. Some months ago there returned from the diamond fields an expert sent from New York to secure first-class diamonds and carbons, and although he was successful in securing some beautiful stones he had to pay a high price for the selection, namely, 35 to 40 milreis per grao. A large carbon weighing 52 carats was found in Lencoes, and was held by the owner for about two years waiting a good price. This stone was sold early in 1906 for 90 contos de reis, exchange at 17 pence to the milreis, to three partners of the firm previously referred to, and was shipped to Paris.

CHILE.

NITRATE PRODUCTION—POOR OUTLOOK FOR COPPER MINES.

Consul Alfred A. Winslow, of Valparaiso, states that from 1830 until 1907 the nitrate fields of Peru and Chile have produced 36,443,327 tons of nitrate, valued at $1,112,728,765 United States gold. He adds:

About two-fifths of this was produced during the last ten years. There has been much said about the exhaustion of the nitrate mines or beds, but from the best information obtainable they are good for two hundred or three hundred years, even at double the production, which is about 2,000,000 tons per year. Fully one-half the production has been net profit, but a new process has been invented that will do for the nitrate business what the cyanide process did for the gold production. Heretofore from 9 to 10 per cent has been left in the waste, but with the new process it is claimed that there will not be a loss of 2 per cent and at a less cost of production than by the old method. Even the waste or tailings can be worked with a great profit.

Official reports show there have been 7,854 copper claims worked in Chile at different times, of which only 748 were worked during the past year. Many of these mines are rich in copper, but with the high price of labor and the poor transportation facilities, few, if any, can be made to pay at the present low price of copper, save those equipped with up-to-date machinery. These are limited, and should the present conditions continue, the production of copper in Chile for 1908, it is estimated, will not be one-half that for the past year. The future for the mining interests does not seem bright at present. The scarcity and high price of labor are factors that bear heavily on this industry in this part of the world. There seems to be plenty of rich ore in the country, but the trouble is with the methods in general used to get it ready for the market. More up-to-date machinery and methods are needed to make the business profitable.

AUSTRALIA.

AUSTRALASIAN GOLD AND TIN PRODUCTION.

Consul-General John P. Bray reports from Melbourne that the production of gold in Australasia during the nine months ended September 30, 1907, was 2,713,522 fine ounces, or 265,655 ounces less than in the corresponding period of 1906. The following comparative table shows the yield in each State of the Commonwealth and in New Zealand:

	1906.	1907.
	Fine ounces.	*Fine ounces.*
Victoria	589,439	524,602
New South Wales	195,885	182,473
Queensland	391,244	341,873
Western Australia	1,345,658	1,247,156
South Australia	11,680	13,000
Tasmania	54,000	45,000
Total, Commonwealth	2,587,851	2,354,104
New Zealand	391,326	359,418
Total, Australasia	2,979,177	2,713,522

Consul-General Bray furthermore reports that 12,091 tons of tin, valued at over $7,300,000, was produced in Australia during 1906, being 1,725 tons more than in 1905. The following quantities of tin were mined last year in each of the producing States: New South Wales, 1,300 tons; Queensland, 4,823 tons; Tasmania, 4,473 tons; and Western Australia. 1,495 tons.

COLOMBIA.

UNDEVELOPED WEALTH OF GOLD AND PLATINUM.

From a German railway constructor and mine prospector, who has for some years been investigating Colombia's possibilities, Consul Isaac A. Manning, of Cartagena, learns that the Choco and San Juan districts of Colombia are very rich in gold and platinum, but until they are tapped with routes of communication, over which provisions and machinery can be taken to the mines, there is little hope for their development. Very little in the way of provisions is at present to be had in those districts, and hence the mining is left to the natives, if washing the gravel from the bars in wooden bowls can be called mining; sluice boxes, rockers, or any modern mode of placer working being entirely unknown, and only loose gravel on the bars or in the beds of the creeks receive attention. In the platinum belt there are special agents purchasing that metal for France and England, and there would seem to be no reason why American merchants should not also become purchasers thereof. The metal is sold in Quibdo, according to reliable information, at $12 per ounce.

BELGIUM.

KINGDOM'S OUTPUT OF VARIOUS MINERALS AND METALS.

Consul-General Ethelbert Watts, of Brussels, supplies the following information regarding the mineral production of Belgium:

The total output of coal in the Provinces of Hainaut, Namur, and Liege during 1906 amounted to 23,569,860 tons, valued at $68,220,038, against 21,775,280 tons, worth $53,195,048, in 1905. The production of coke in the Hainaut and Liege Provinces during 1906 amounted to 2,414,490 tons, valued at $11,031,309. In the three Provinces there were produced during the year 1,887,090 tons of briquets, valued at $6,874,750, and the smelting furnaces turned out 1,199,245 tons of iron and steel, worth $16,973,736. There were 10 zinc works in operation in the Province of Liege in 1906, producing 728,620 tons of the raw material, valued at $16,510,626. The 42 iron and steel works in the three Provinces produced 1,767,350 tons of the finished product, valued at $35,195,681. The lead production in the Province of Liege in 1906 amounted to 16,390 tons, worth $1,326,653, and the output of silver was valued at $793,597.

BRITISH INDIA.

RAPID ADVANCE IN PRICE OF MANGANESE ORE.

Consul-General William H. Michael reports that one year ago a managing proprietor of coal and manganese mines, of Calcutta, entered into a contract to furnish 5,000 tons of manganese ore at $4.66 per ton, to be delivered not later than February 15, 1907. He is now being sued for nonperformance of contract. The evidence adduced brought out the fact that good manganese ore, that is, ore containing 50 per cent of manganese, can not be had for less than $7 per ton. The rapid advance in the price of manganese ore in India during the last year has greatly stimulated the manganese industry.

CEYLON.

PLUMBAGO PRODUCTION AND EXPORTS TO UNITED STATES.

Consul E. A. Creevey, of Colombo, reports that the first export of plumbago from Ceylon in 1825 was consigned to Joseph Dixon, the founder of the American Crucible Company, and that from that time up to the present the United States has led all countries in the consumption of this product. The exports of plumbago from Ceylon in 1906 amounted to 35,183 tons, the largest export of any year in the history of the trade, and were to the following principal countries, in tons: United States, 15,495; United Kingdom, 9,385; Germany, 6,362; Belgium, 3,201; France, 239; Japan, 130; Russia, 62.

WORLD'S IRON-ORE PRODUCTION.

UNITED STATES, GERMANY, UNITED KINGDOM, AND SPAIN LEAD.

Consul-General Robert J. Wynne, of London, reports that the preliminary figures so far available to the British Board of Trade are contained in a return issued the latter part of November. It is estimated that the world's output of iron ore in 1906 was about 125,000,000 tons, the principal producers being the United States, Germany, the United Kingdom, and Spain, in the order given, these countries accounting for about 78 per cent of the total output. The figures show that in the United States there was an output of 7,000,000 tons more than in 1905, the total being rather under 50,000,000 tons. In Germany there was an increase of over 3,000,000 tons, and in the United Kingdom and Spain of 1,000,000 tons each.

There was a further large increase in the production of steel in the United States, while the production of Germany increased by about 1,000,000 tons, and that of the United Kingdom by about 650,000 tons.

COAL TRADE.

GERMANY.

CONSUMPTION IS INCREASING FASTER THAN DOMESTIC MINES CAN SUPPLY.

Vice-Consul Joseph H. Leute, of Mannheim, finds that in 1907, as compared with former years, the consumption of coal per capita in Germany has increased faster than the domestic production. The vice-consul continues:

This development would be natural with increasing consumption without a corresponding increase in production, as was the case in 1906 and in the first half of 1907, due in part to labor troubles. In the second half of 1907, however, the demand has been only an average one, while the production has not been hampered in any way. The consumption in kilos of 2.2 pounds during the first three quarters per capita of population for the years given, with relative percentages of increase, is shown as follows:

	1905.	1906.		1907.	
	Kilos.	*Kilos.*	*Per cent.*	*Kilos.*	*Per cent.*
Consumption	2,102.5	2,309.3	9.8	2,484.6	7.3
Domestic production	2,105.1	2,346.3	11.5	2,472.1	5.4

From this it is seen that while in late years the production increased faster than the consumption, in 1907 the increase was less. The absolute figures show this same movement. The consumption of stone coal and brown coal increased from 141,000,000 tons in the first three quarters of 1906 to 154,000,000 tons in the same period of 1907, an increase of 9 per cent; but the production in 1906 amounted to 142,891,876 tons, and in 1907 to 151,919,828 tons, an increase of but 6 per cent. This considerable increase in the consumption over the production is the result of an unusually heavy importation, due, among other things, to a scarcity of cars for shipment of coal from the inland mines. In the first nine months of 1907 the importation amounted to about 30 per cent more than for the same period of 1906, increasing from 12,697,627 tons to 16,692,967 tons. The exports played no part in the increased inland consumption, being greater than in 1906. During the first three quarters of 1906, 14,573,006 tons of stone coal and brown coal were exported, and during the same period of 1907, 14,918,293 tons, showing an increase in exportation of 345,287 tons.

DEVELOPMENT OF THE ALSACE DEPOSITS.

Consul William J. Pike, writing from Kehl, says that recently published statistics show that the coal industry of the German province of Lorraine has kept pace with the progress of other industries, and adds:

Within a period of six years the coal output has increased by 1,000,000 tons, or doubled itself. The production in 1906 was 2,115,363 tons, in which 9,775 men were employed. One new company has been formed, and the three present operating concerns are planning extensions of their works.

Experimental boring by prospectors in different parts of Lorraine reveals the fact that there are still a great number of coal fields to be worked, and as several large commercial companies are interested in the development of the coal industry it is anticipated that several new mines will be opened up at an early date. The great difficulty which mine owners have to face at the present time is the scarcity of men. Lorraine already occupies a very high position as a coal producing country, but, if the present rate of progression continues its coal fields will head the list as being the most important in the west of Germany.

CHILE.

LARGE LOCAL DEPOSITS, YET IMPORTS GREATLY INCREASE.

Consul Alfred A. Winslow, of Valparaiso, reports that the fuel question is being closely studied by the leading interests in Chile, continuing:

It is becoming evident to the people that it is unwise to buy coal from abroad at high prices, including freights, when the country contains immense quantities of coal that averages only about 5 to 10 per cent inferior to the best English coals. The value of the importations of coal for 1906 was about $7,464,531 United States gold, of which the United States supplied only about $69,722 worth, against England's $5,420,658. It is estimated that Chile has paid over $30,000,000 for foreign coal since 1900, which is a heavy drain on a country of but 3,500,000 people.

Less coal was mined in Chile during 1906 than in 1905, which was due to labor troubles and water getting into one of the largest mines, which extends far out under the ocean at Lota. Some fine coal deposits are found in the interior, some 50 to 60 miles from the coast, which it is proposed to open up as soon as transportation facilities are provided, which is not likely to be done within the next two or three years. It is thought there will be more coal mined in Chile this year than ever before during a like period, but not sufficient to meet the increased demand, so the imports for 1907 must exceed those for 1906.

There is a good opening here for American coal in large quantities. The price for coal is high, being from $8.50 for Australian to $10.50 for Cardiff, in cargo lots. Coal enters free of duty.

BELGIUM.

RECENT STATISTICS SHOW PROFITABLE RESULTS.

Consul W. P. Atwell, of Ghent, reports that the number of coal mines in full activity in Belgium during 1906 was 122, one more than in 1905. He also gives the details of their operations:

The total production amounted to 23,569,860 tons, showing an increase of 1,794,580 tons over 1905, or 8.24 per cent. The total value amounted to $68,220,038, which shows an average price of $2.90 a ton, against $2.44 for the preceding year. The total of workmen occupied in 1906 was 139,394, against 134,747 in 1905, thus showing an increase of 4,647 workmen for 1906. The wages paid in 1906 amounted to $36,482,541, showing an increase of $6,715,408, or 22.6 per cent over the preceding year. The average day wage increased from $0.75 to $0.87. Miscellaneous expenses, such as salaries paid to directors, employees, etc., amounted to $23,046,427, making a total cost of $59,528,968, or $2.53 for producing a ton of coal. The profits amounted to $8,691,070, or 37 cents per extracted ton, an increase of 21 cents per ton over 1905.

Among the 122 mines in activity, 96 closed the year 1906 with a profit of $9,563,096. The 26 others showed a deficit of $908,026, due to the establishment of improvements, of which the cost amounted to more than the realized profits.

BRITISH INDIA.

ADVANCE IN PRICE OF FUEL, COST OF PRODUCTION REMAINING THE SAME.

According to Consul-General William H. Michael, of Calcutta, while the price of coal in India has advanced within the last two years to more than twice its former price, as nearly as he can learn, the cost of production remains about the same as it was in 1895, which he states was, in cents per ton:

Cutting, bringing to the surface, and loading on the cars	37
Royalty	14
Charge to capital on account of expenditures on workings of no intrinsic value	4
Cost of establishment	4
Depreciation of machinery	4
Contingencies	1
Total	64

The price of coal in the Calcutta market in 1895 was $1.66 to $2.33 per ton, according to quality. The present price for Bengal coal ranges from $4.82 to $5.49. From an estimate of all the present quotations the average price of Indian coal in the Calcutta market is now $5.01, against $1.98 in 1895. The prospects are that Indian coal will go still higher, although there is no good reason for further advance.

TRANSVAAL.

PRESENT PRODUCTION AND ESTIMATED DEPOSITS.

Consul John H. Snodgrass, of Pretoria, reports that at the close of 1906 there were 25 coal mines in the Transvaal, with an annual output of 3,712,339 tons, viz: Round coal, 2,139,639 tons; nut coal, 545,333 tons; fire coal, 66,164 tons; and the value of the output was $4,185,830, an average of nearly $1.12 per ton. During the year 527 white and 10,490 colored miners were employed, the wages of the latter averaging $10.44 per month. While 300 tons of coal per day are shipped to Delagoa Bay for the use of shipping, no coal is imported into the Transvaal. Excluding the Lebombo Range and the Limpopo Valley possibilities, the amount of coal in the Transvaal is estimated at 3.000,000,000 tons, of which 80 per cent is inferior, leaving 600,000,000 tons of high quality coal.

WORLD'S FUEL SUPPLY.

BRITISH OFFICIAL REVIEW OF COMPARATIVE PRODUCTION.

Consul-General Robert J. Wynne, of London, transmits the following information contained in a return just issued by the British Board of Trade regarding the coal-producing countries of the world:

It is estimated that the world's coal production in 1906 was about 905 million tons, to which the United Kingdom contributed rather less than a third. Nine-tenths of the total was raised by five countries, and their output for that year, and also for 1904 and 1905, is given below, in tons:

	1904.	1905.	1906.
	Tons.	*Tons.*	*Tons.*
United States	314,122,000	350,821,000	369,672,000
United Kingdom	232,428,000	236,129.000	251,068,000
Germany	118,874,000	119,350,000	134,914,000
France	32,964,000	34,652,000	33,762,000
Belgium	22,396,000	21,506,000	23,232,000

In the United Kingdom, the United States, and Germany the production in 1906 was greater than in any previous year. In France the falling off of nearly 1,000,000 tons may be accounted for by the strike in the northern coal fields early in the year. The production of the United States now exceeds that of the United Kingdom by nearly 50 per cent, while, on the other hand, the production of Germany represents only about a half, and that of France and Belgium together rather more than a quarter of the production of the United Kingdom.

As compared with its population, the production of coal in the United Kingdom still surpasses that in the United States. It amounts to 5¾ tons per head, while in the United States it is rather more than 4⅓ tons. In Belgium the figure is 3¼ tons per head, in Germany about 2¼ tons, and in France under 1 ton.

Among the outlying portions of the British Empire, India has the greatest output, with 9,783,000 tons. Canada follows with 8,717,000 tons, and Australia with 8,596,000 tons. Next comes the Transvaal with no more than 2,583,000 tons.

EMPLOYEES AND CONSUMPTION—PETROLEUM YIELD.

The number of persons employed in 1906, above and below ground, in each of the principal producing countries was: United Kingdom, 837,100; United

States, 626,300; Germany, 493,300; France, 171,500; and Belgium, 134,700. As regards the output per person employed, the United States takes the first place with 560 tons, the United Kingdom second place with 282 tons; followed by Germany, France, and Belgium, with 242 tons, 202 tons, and 159 tons, respectively.

As has been said, the United States is far and away the greatest consumer of coal, as well as producer, and her total consumption was last year more than twice that of the United Kingdom. In the following table the consumption in tons is given for the leading countries, both as a total and per head of the population.

	Total.	Per head.
	Tons.	*Tons.*
United States	361,492,000	4.30
United Kingdom	174,329,000	3.99
Germany	119,282,000	1.94
France	50,296,000	1.28

Railway locomotives in the United Kingdom used 12,093,000 tons in the year, as compared with 11,593,000 tons in 1905, and 11,445,000 tons in 1904.

France was the best customer for British coal in 1906, taking 8,381,000 tons, and Germany, in spite of her own large exports, took 7,512,000 tons from us. France imported altogether 18,289,000 tons, and Germany 10,175,000 tons. Thirty-five tons were brought to the United Kingdom from abroad; the reason is unexplained.

Petroleum produced in the United States in 1906 amounted to 4,587 million gallons, as compared with 4,715 million gallons in 1905, a decline of 228 million gallons. The Baku oil fields of Russia, which are accountable for the major part of the production of that country, yielded 1,846 million gallons in 1906, which, though larger, than the relatively small output in 1905 (1,691 million gallons), is still considerably less than in most recent years. The quantity exported from Russia was considerably less than that from the United States.

TUBBING FOR MINE SHAFTS.

NEW SYSTEM DEVISED IN FRANCE TO CHECK WATER.

Consul William H. Hunt, of St. Etienne, advises that a patent has been taken out for a new French system of "tubbing" for mine shafts, which he thus describes:

The great depths now attained in mine shafts in aquiferous soil render tubbing very difficult and costly, by reason of the increasing pressure which the tubbing has to resist, and consequently the iron circles, or rings, have to be made much thicker than heretofore.

The new system consists in employing, for any depth, rings no thicker than those ordinarily used (three-fourths of an inch), as they are not in reality required to support the pressure coming from the water behind them. This pressure is borne by an interior banking of armed cement in the form of rings of any required depth and acting as supports or arc-boutants to the iron rings with which they are placed in contact, and whose principal object is to protect the armed cement from contact with the water.

The necessary thickness of these cement rings may be calculated according to the general rules governing the pressure they are called on to support. The method of tubbing is as follows:

The thin iron tubbing, constituting the first part of the system, is placed "in situ" in the ordinary way, ascending or descending, singly or in layers, as the case may be. At intervals, water faucets are placed to give exit to the water coming from behind the tubbing;

this water is conducted to the interior of the mine by temporary pipes, so as not to interfere with the execution of "banking" in armed cement, which constitutes the second part of the system. This lining wall, or revetment, is made in rings of varying depths according to the circumstances.

MAKING WORK IMPERVIOUS TO WATER.

When the cement is hardened on the surface of the section of the tubbing extending between two water-tight passages, the faucets mentioned, for which a corresponding passage through the cement has been reserved, are closed. The tubbing is then in position supported by the cement lining, and, with the joinings well soldered, prevents the water in any appreciable quantity from coming in contact with the cement.

Subsequently through these taps connected with the surface by means of appropriate piping an injection of very thin cement is made under pressure behind the tubbing, which thus seals up completely all the issues to the water, insuring in this way indefinite preservation of the work.

Such a system of tubbing can always be easily kept in repair, for if at any one point a filtering of water is observed the taps in the neighborhood can be opened in order to overcome as much as possible the pressure at this point, then the annular section of cement is demolished and the process commenced over again. All these operations can be accomplished without interfering with the compartments of the pit used for extraction, and consequently without interference with the general work.

The advantage of this system lies in the fact that iron tubbing of three-fourths of an inch in thickness, instead of 4¾ inches, for a shaft of 6 meters (19.8 feet) in diameter, represents an economy of 20 tons of iron for each meter (3.3 feet) of the shaft, while it would also be virtually impossible to obtain iron tubbings of more than 4¾ inches in thickness in cases where it might be deemed necessary.

FINANCIAL.

FOREIGN TAXATION METHODS.

SWITZERLAND.

PERSONAL AND PROPERTY TAXES—RAILROADS ARE CLOSELY SCRUTINIZED.

Consul-General S. C. McFarland, writing from St. Gall, thus outlines the Swiss taxation system:

Railroads are treated as other stock corporations, under an intricate system which aims at exact valuation of real property where located, for general property (Vermögen) taxation, including paid-up capital and reserve funds; and, for income purposes, the application of this tax to earning stock wherever it may be possessed. To arrive at just conclusions, cantonal tax commissions, or State assessors as they would be called in the United States, are given extraordinary powers as to the investigation of corporation as well as of all other business. They demand books and require the appearance and testimony of corporation officials when necessary, so that the furthermost details of railroad operation and of stock corporations generally—investment, operating expenses, gross and net profits, indebtedness, individual holdings of stock, salaries (for income purposes), etc.—are clearly shown, and then the details of the law, as hereafter explained, are applied.

The Swiss Government is pursuing the policy of railroad ownership, preparation for which was made by the insertion in franchises of clauses providing for the option of valuation and purchase by the Government at specified periods. Under the pursuance of this policy, the Government now owns and operates some 2,469 kilometers (kilometer=0.62 mile) of main-line, broad-gage service, as against about 903 kilometers still in the hands of private corporations. Narrow-gage roads, cog, wire-rope, and street and suburban lines, using different motive power, and of which there are a large number in Switzerland, are largely in private, municipal, or district hands. All railroads not owned by the Government are under strict regulation as to rates, running of trains, advisable improvements, etc. Tax rates vary throughout Switzerland in the different Cantons or States much as they do in the United States. For convenience, values will be stated in francs (franc = 19.3 cents), and the different principal and direct taxes are as follows:

GENERAL PROPERTY, INCOME, HOUSE, AND INSURANCE TAXES.

The Vermögen or general property tax covers real property, moneys, etc., but not household effects, and is graduated according to amount of property owned. Up to a value of 1,000 francs property is free; from 1,000 to 100,000 francs the rate is 2.4 francs per 1,000, gradually rising on each 100,000 to 1,000,000 and over, when it is 3.6 francs. This is a cantonal tax. Similar graduated taxes are separately collected for city, school, and church (Protestant) purposes, aggregating 7.47 francs per thousand. Widows and orphans, however, are taxed but one-half of the foregoing rates on property up to 50,000; from 50,000 to 100,000, three-fourths, and above the latter figure the full rate. The tax commission has authority, after full investigation, to lower the property taxes of people unable to work, of minors, of single women, etc., within certain limits.

There are four separate income taxes—Canton, city, school, and church. The cantonal rate is 0.96 franc per 100 on incomes from 100 to 2,000, gradually rising to 4.8 francs per 100 on 14,100 or more, and a similar graduated tax for city, school, and church purposes at rates hereafter specified. Variations are: Single men, 1,000 francs free; married men with three children, 1,200 free; with more than three children, 1,500 free.

The house tax is 0.25 franc on each 1,000 of insurance carried, and goes to the city. From 1 to 2 francs is the tax per 1,000 of obligatory insurance carried, according to class of policy, this also going to the city. Up to 20,000 francs no one has to pay on his household and personal effects; above that amount, on one-half the excess a total tax of 6 francs per 1,000 is equally divided between city, school, and church. Every male of 20 or over must pay yearly a head or poll tax of 1 franc, which goes to the Canton.

All of the foregoing taxes must be paid by every citizen if his property and income bring him within the specifications as to those taxes. Many, through physical disability or otherwise, escape military service. For such persons a military tax, going to the Government, is provided—(*a*) personal tax, age between 20 and 34, 6 francs; between 35 and 44, 3 francs; (*b*) property tax of 1.5 francs per 1,000; (*c*) income tax—600 francs free, and above that, between the ages of 20 and 34, 1.5 francs per 1,000, and between the ages of 35 and 44, 0.75 franc. Should he receive an inheritance, one-half of the amount is taxable at the same rate for the same purpose. This leads up to the

INHERITANCE TAX—ILLUSTRATION OF TOTAL TAX.

On inheritances there is also a graduated tax. Estates left to wife, husband, parents, or children are free up to 10,000 francs, and above that they are taxed one-half of 1 per cent; to brothers or sisters, 2 per cent on the full amount, and to more distant relatives or others, 3 per cent on the full amount. The beneficiary must also pay 1 per cent of the full amount received. Exceptions are bequests up to 2,000 francs to servants or employees, free; to churches or public institutions, absolutely free. This is a cantonal tax.

To apply these taxes to a specific case, for illustration, presume that a merchant, single and 40 years of age, has—

Property.	Taxable valuation.
	Francs.
Real estate (if mortgaged, amount would be deducted), value 100,000 francs	100,000
Household effects valued at 30,000—20,000 free, one-half of 10,000 francs	5,000
Cash in bank	50,000
Insurance policy, nominal value 10,000 francs, return price 5,000, allowed 3,000	2,000
Owns mortgages, value 40,000 francs	30,000
Homestead, value 50,000 francs	50,000
Owns business shares (stock), value 50,000 francs	50,000
Total	287,000

Upon this amount, as property or Vermögen tax, he has to pay:

To—	Francs per 1,000.
Canton	2.64
City	1.80
Schools	2.60
Church	.67
Total	7.71

This results in a total property tax of 2,212.77 francs, to which must be added his income and other taxes, as follows:

	Francs.
Real estate valued at 100,000 francs, of which 4 per cent is free; rent income, 8,000 francs	4,000
Owns mortgages, value 30,000 francs, 4 per cent free	300
Income, net	15,000
Owns 50,000 francs' worth of shares, 4 per cent free, or 2,000 deducted from profit of 2,500 francs	500
Total income	19,800
Less allowance free as single man	1,000
Total	18,800

Upon this amount he has to pay:

To—	Francs per 100.
Canton	4.80
City	3.00
Schools	2.60
Church	.07
Total	9.87

The total income tax is therefore 1,855.56 francs. Thus far he has taxes on both property and income of 4,068.33 francs. Next he must add his house tax of 27.5 at the rate of 0.25 per 1,000 francs (in his case 100,000 francs real estate and 50,000 francs homestead, less 40,000 francs ground value), a poll tax of 1 franc, and, not being in the military service, 447.15 francs—a total of 4,543.98 francs, or, in round figures, about $910, on a property of $57,400 and an income of $3,760, not including what he might have to pay for household effects.

Official commissioners investigate his business; his most private books must be disclosed, actual valuation is arrived at, and no property or income is likely to escape the assessors. He must also pay stamp duties on bank checks, drafts, and instruments of record; licenses must be secured to shoot or fish, and in many minor ways additional indirect taxation is levied. The tax laws, as well as all others, are rigidly and impartially enforced in Switzerland.

GERMANY.

NEW METHODS OF OBTAINING FUNDS FOR CITY IMPROVEMENTS.

Consul-General A. M. Thackara, writing from Berlin in response to an Illinois inquiry, gives the following information about real estate taxation in Germany:

As an example of tax rates in suburban towns Schoneberg may be cited. This is a town of 141,000 inhabitants, contiguous to the city of Berlin, and owing to its location, although it has a municipal administration entirely separate, really forms a part of greater Berlin. The tax on real estate (Grundsteuer) in Schoneberg is at the present time 2¼ marks (53½ cents) per 1,000 marks ($238), but the mayor states that after April 1, 1908, the tax on unimproved property will be raised to 4½ marks ($1.07) per 1,000 marks. There is also a tax payable on the sale or exchange of property called the "Umsatzsteuer," which is 1 per cent on improved property and 2 per cent on unimproved property, which is the average rate throughout this country.

To meet the burdens which have been created by the necessary improvements the municipal administrations of some sixteen or seventeen rapidly developing cities, in order to augment their revenues without increasing the income tax, which is always unpopular, have taken advantage of the rise in the ground values by adding to the "Umsatzsteuer" another tax proportionate to the increase of the value of a property since it last changed hands (Werthzuwachssteuer). Such a tax exists in Frankfort, Cologne, Breslau, Weissensee near Berlin, and in other smaller towns. A similar measure was proposed for Berlin, but when the act as approved in principle by the municipal authorities came up recently for discussion before a committee of the town council formed for the purpose, there were so many amendments offered that the matter was postponed to await a more favorable opportunity to bring the original measure before the whole council for a final vote.

RATES IN DIFFERENT CITIES.

While the rates and provisions vary somewhat in the different cities where the Werthzuwachssteuer is in force, the principles of the law are similar. In Breslau, where an act for taxing the increase in values of real estate went into operation June 23, 1907, the provisions in general are as follows: Whenever a change of ownership of real estate takes place which is not the result of an inheritance, either after the death of the testator or a gift during his lifetime, the property, if located within the limits of the city of Breslau, is subject to a change of property tax (Umsatzsteuer) and a tax on the increase of values (Werthzuwachssteuer).

The rate of the Umsatzsteuer is 1 per cent of the value of improved property and 2 per cent of unimproved property. When there is more than one property in question, the tax is paid on the most valuable only, and if one of the properties is located outside of the city the tax is levied only on that within the city limits. The Werthzuwachssteuer is collected only when the increase of value of the property since the last change of hands amounts to more than 10 per cent. The increase of value is the difference between the value when the previous transfer took place and value at the time of the present sale.

In computing the value at the time of the present transfer, there have to be added to the value at the last exchange all disbursements for the permanent improvement of the property, especially new buildings, reconstruction of old buildings, the assessed costs of street and river improvements, as well as 4 per cent interest of the building capital from the time the buildings are commenced until they are completed and released by the police building inspectors; also 5 per cent of the last selling price to cover the costs of transfer, including the stamp, Umsatzsteuer, the court and notarial fees and commissions. The increase of value of the properties over 10 per cent is taxed as follows:

Rate of increase.	Tax.	Rate of increase.	Tax.
	Per cent.		*Per cent.*
Over 10 per cent	6	Over 60 per cent	16
Over 20 per cent	8	Over 70 per cent	18
Over 30 per cent	10	Over 80 per cent	20
Over 40 per cent	12	Over 90 per cent	22
Over 50 per cent	14	Over 100 per cent	25

CONCESSION FEATURES.

The tax is collected only when the period between the prior and the present purchase is less than five years when the property is improved, and when the property is unimproved a period of less than ten years. When the time elapsed between the sales is more than five and less than ten years for improved property and more than ten and less than twenty years for unimproved property, only two-thirds of the tax is collected. If more than ten years with improved and more than twenty years with unimproved property have elapsed, only one-third of the tax is collected. Ground property on which temporary buildings, sheds, stables, etc., are erected is regarded as unimproved property.

The Wertzuwachssteuer in Cologne is 10 per cent tax for increase of value of 10 to 20 per cent, with a graduated increase up to 13 per cent tax for increase of value of 40 to 50 per cent, and on up to 25 per cent tax.

In Frankfort the tax is 5 per cent on increase of value of 30 to 35 per cent, 8 per cent on increase of value of 45 to 50 per cent, and so on up to 25 per cent tax.

AMOUNTS COLLECTED.

The mayor of Weissensee writes that during the last fiscal year 1906-7, which ended in March, the amount collected was 39,074 marks ($9,300). The law, however, did not go into effect till August, 1906. Since March the receipts from the tax in question were 91,271 marks ($21,723) owing to large property sales resulting from the construction of a new railway. He further states that although the tax is disliked by the speculators in property the results have been in every way satisfactory. Whether or not normal real estate sales have been unfavorably affected by the operation of the new tax can hardly be estimated as the law has been in force such a short period.

The receipts from the Wertzuwachssteuer in Frankfort in 1904-5 were 115,537 marks ($27,498) and 353,965 marks ($84,244) in 1905-6. The rents do not seem to have been influenced by the tax. In Cologne the income from the tax is estimated at 200,000 marks ($47,600) annually, but whether or not the tax has affected the real estate transactions the mayor states that it is difficult to say, as the law has not been long enough in operation.

AUSTRIA.

NEW LAW IMPOSES GRADUATED RATES ON MOTOR VEHICLES.

Consul-General W. A. Rublee, of Vienna, reports that a law for the taxation of automobiles went into effect in Austria on January 1, 1908. The annual taxes for the various kinds of automobiles have been fixed at the following amounts:

Motocycles, 10 crowns (1 crown=20.3 cents); motocycles with carriage attached, 30 crowns; and on automobiles as follows: Up to 10 horsepower, 60 crowns and 4 crowns additional per horsepower; from 10 to 25 horsepower, 75 crowns and 5 crowns additional per horsepower; from 25 to 45 horsepower, 100 crowns and 7 crowns additional per horsepower; over 45 horsepower, 150 crowns and 10 crowns additional per horsepower. Electric automobiles, 100 crowns.

A tax is also to be levied on foreign automobiles entering Austria, according to the length of their stay. Automobiles making a stay of ten days or less pay one-tenth of the regular tax, for a stay of not more than two months one-fourth of the regular tax, and for a longer stay a proportional amount. Certain classes of automobiles are not taxed, the ones excepted being those belonging to the imperial family, to members of the diplomatic corps, and to the military, postal, fire, hospital, and Government service. Freight and commercial automobiles also are not subject to taxation. Automobiles used by business men, physicians, engineers, etc., in the course of their professional or business occupations pay only half of the prescribed taxes.

The total revenue to be realized from automobile taxation in Austria is estimated at between 500,000 and 600,000 crowns, and the money derived from such taxes is to be devoted to the improvement of roads. The statistics in respect to automobiles in Austria show that in 1906 there were 2,314 automobiles in Austria and 5,387 motocycles. During the same year there were 2,118 automobiles and 598 motocycles entering Austria from foreign countries.

BERLIN MUNICIPAL GOVERNMENT.

TAXATION, FINANCES, RECEIPTS, AND EXPENDITURES OF THE CITY.

In reply to a Boston correspondent, making inquiries as to the tax rates, receipts and expenditures, yearly appropriations, public debt, and mode of electing a mayor and council in Berlin, Consul-General A. M. Thackara writes as follows:

In the American sense there is no fixed municipal tax rate in Germany. The principal difference between the American and German tax systems is that in the United States an estimate is made of the necessary municipal expenditures for the ensuing year and the tax rate on taxable property, both real and personal, is fixed accordingly, while in Germany an estimate for this purpose is not made in advance but the rates of the various taxes from which the municipalities derive their incomes are fixed by law. The State income tax is based upon the taxable capacity of the individual according to his income out of real and personal property. The municipal income tax is a certain percentage of the foregoing tax. In other words, besides his other taxes, a taxable resident of Berlin is obliged to pay two income taxes, one to the State and the other to the city.

The municipal income tax rate is as follows: Income more than $214.20 up to $249.90, $1.43; from $249.90 to $285.60, $2.14; from $285.60 to $321.30, $2.86; from $321.30 to $357, $3.81; from $357 to $392.70, $4.50; from $392.70 to $428.40, $6.19; from $428.40 to $499.80, $7.38, etc. The other municipal taxes are the real-estate tax, trade tax, department-store tax (Warenhaussteuer), tax paid by restaurants, drinking saloons, and hotels (Betriebssteuer), dog tax, brewing-malt tax, street vendor's tax, and exchange of property tax, all of which vary in the different cities. The municipal taxes paid per capita in Berlin during the fiscal year 1905–6 were $9.28; State taxes, $6.30, and imperial taxes $8.27, or a total of $23.85. The net amount of taxes of all kinds collected in Berlin during the year was $48,293,662, of which $18,747,959 went to the credit of the municipal government and the balance to the State and the Empire.

COST OF MAINTENANCE, AS COMPARED WITH AMERICAN CITIES.

From the statistics of five American cities for 1906, as given in a leading American publication, a comparison as to the costs per capita of maintaining the city governments of those cities and Berlin may be made, as follows:

City.	Estimated population January 1, 1907.	Area in square miles.	Per capita cost of maintenance.
Berlin	2,092,098	24½	$9.28
Chicago	2,049,185	190	12.37
Philadelphia	1,469,126	129	14.31
St. Louis	715,000	66	14.85
San Francisco	460,000	46½	16.85
Boston	606,099	42½	38.18

NET REVENUE FROM TAXES.

The revenue derived by the city of Berlin in 1906 from the various taxes is shown in the following table:

Description.	Receipts.		Expenditures.
	Amount received.	Due but not received.	
Real-estate tax	$5,531,153	$11,319	$7,226
Trade tax	2,702,027	8,673	39,900
Department-store tax	287,410	6,816	287,416
Betriebssteuer (restaurants, hotels, and drinking places)	77,297	509	370
Income tax	8,368,358	193,678	141,219
Dog tax	171,888	597	684
Brewing-malt tax	183,326	....	....
Street-vendors' tax	214	....	12
Exchange of property	1,630,299	68,798	17,265
Total	18,951,972	290,390	494,092
Expenditures	494,092	311	
Difference	18,457,880	290,079	
Excess of amounts to be paid	290,079		
Net receipts	18,747,959		

REVENUE AND EXPENDITURES.

There is no yearly appropriation for certain purposes, in the American sense. It is true there is a municipal budget, in which there are given the estimated receipts from all sources of revenue and the estimated running expenses for the coming year to determine the disposition of the city's finances. The city of Berlin may be compared to a large corporation conducting its extensive operations on a thoroughly business-like basis.

The following table shows the revenue of the city of Berlin for the past fiscal year (1906) and how it was expended:

Source of revenue.	Receipts.		Expenditures.	
	Revenue.	Due but not received.	Paid.	To be paid.
City and country land belonging to the city stone quarry at Rudersdorf	$291,050	$4,311	$95,737	$43,847
Gas and waterworks, sewers, abattoirs, etc	3,051,894	219,576	588,685	59,399
Taxes	18,951,975	290,391	494,102	318
Capital, loans, mortgages	5,248,353	....	6,082,549	279,964
Educational institutions	857,317	4,311	6,471,458	7,571
Institutions for the poor	496,082	8	3,770,717	1,496
Hospitals and homes for the sick	996,824	8,666	2,870,202	7,147
Parks and gardens	7,869	13,818	245,602	17,342
Building operations	6,234,820	3,531,431	8,549,576	6,014,582
Administrative expenses	345,181	956	3,575,024	12,831
Police	278,045	....	1,746,253	6,063
Street lighting, cleaning, and sprinkling	93,455	5,018	1,677,993	64,189
Miscellaneous	4,129,082	952	550,232	203,562
Total	40,981,444	4,079,428	36,668,132	6,718,311
Balance for 1905	4,540,554	....	2,728,388	....
Grand total	45,521,998	4,079,428	39,896,520	6,718,311
Debits	39,396,520			
Difference	6,125,478			
Excess of amounts to be paid over those not received.	2,638,883			
Balance at the close of 1906	3,486,595			

The results of the year were most favorable, as they showed a surplus of $3,486,595 to be carried forward to the coming year. This showing is all the more wonderful when one takes into consideration the excellent manner in which the city is lighted and cleaned, the abundant supply of pure drinking water which is furnished to the inhabitants, the number of eleemosynary institutions, schools, hospitals, sanatoriums, etc., that have been maintained and well managed, the police and fire protection, the great sewerage system with its sewage farms, the number of up-to-date commodious public baths, the breathing places for the people, the beautiful parks, etc.

MUNICIPAL FRANCHISES AND PUBLIC UTILITIES.

With the exception of the electric lighting and street railways, and a portion of the gas lighting, the public utilities are owned by the municipality. The Imperial Continental Gas Association, an English corporation, supplies part of the gas to the city, but the municipal authorities also have their own gas plants, and work under agreement with the English company. The electric lighting is in the hands of the Berlin Electric Works, a corporation working under a franchise from the city, which expires in 1915. At this date the city holds the right to purchase the entire plant at a price to be arranged by the municipal authorities and the company.

The street railways, with the exception of a few lines operated by the city itself, are under the management of the Greater Berliner Street Railway Company, which possesses a franchise granted by the city, which expires in 1949. At the expiration of the term of the franchise, the city has the right to take over the lines at a certain agreed upon price.

PUBLIC UTILITIES RECEIPTS AND EXPENDITURES.

The following statement shows the receipts, expenditures, and net revenues of three of Berlin's public utilities in 1905:

Utility.	Receipts.	Expenditures.	Net revenues.
Gas works	$10,687,504	$8,711,138	$1,976,366
Markets, abattoirs	2,085,392	1,971,270	114,122
Waterworks	2,206,594	1,560,482	646,112
Total	14,979,490	12,242,890	2,736,600

While from the gas and water works, market house, and abattoirs Berlin, in 1905, derived a revenue of $2,736,600, the receipts from the sewerage system and sewage farms during the same year were $3,105,877 and the expenditures $3,697,739, making a deficit of $591,862.

PUBLIC DEBT OF THE CITY.

The financial condition of Berlin on April 1, 1905, the latest date for which statistics are available, is indicated by the following figures:

Description.	Municipal.	Endowments.	Total.
ASSETS.			
Ground property	$114,725,158	$2,489,517	$117,214,675
Mortgages and other claims	7,003,470	3,511,340	10,514,810
Securities	2,485,645	6,120,757	8,606,402
Cash balance	7,640,187	96,903	7,737,090
Outstanding accounts	406,740	16,771	423,511
Supplies, material, provisions, machinery, etc	30,469,256	162	30,469,418
Furniture, library books, apparatus, and collections	8,063,900	28,778	8,092,678
Total	170,794,356	12,264,228	183,058,584
LIABILITIES.			
Ground property	509,034	85,680	594,714
Bonds	80,231,145	....	80,231,145
Temporary loans	....	11,900	11,900
Outstanding debts	2,476,591	3,804	2,480,395
Total	83,216,770	101,384	83,318,154
Excess of assets	87,577,586	12,162,844	99,740,430

From this it will be seen that on April 1, 1905, the city of Berlin was the possessor of clean assets amounting to nearly $100,000,000.

AREA, POPULATION, STREETS, PARKS, GOVERNMENT, ETC.

The foregoing information refers to the city of Berlin proper and does not include the surrounding cities of Charlottenburg, Schoneberg, Rixdorf, etc., which, although contiguous to the principal city, have separate municipal administrations. If the surrounding cities and towns are taken into consideration, Greater Berlin to-day has a population of about 3,100,000 inhabitants. The area of Berlin in

1906 was 24½ square miles, with a population on June 30 of that year of 2,060,777. There were 2.5 square miles of paved streets, 935 numbered and named streets, 101 public parks or places, and 79 bridges other than used by railroads. There were 26,441 plots of ground on which buildings were erected, 1,201 plots vacant, and about 39,600 buildings. The average number of inhabitants per square kilometer (0.3861 square mile) was 32,117 against 29,735 in 1900, and 24,865 in 1890.

One of the principal requirements of a mayor in Germany is unqualified honesty, for in the municipal administration of this country graft in any form would not be tolerated; in fact, it is unknown. To become the mayor of a city like Berlin the applicant must have established his reputation for efficiency in governing other German cities. His career is carefully scrutinized by the members of the town council who select him, for not only must he be competent, and successfully perform the duties of his high position, but still so young as likely to remain competent for many years, for a mayor in Prussia is elected for a term of twelve years, and if not reelected after that period is entitled to a life pension of half the amount of his salary. After a service of six years his pension is one-fourth of his salary, and after serving twenty years two-thirds. He need not necessarily be a resident of Berlin at the time of his appointment; in fact, the mayor is usually chosen from the residents of other cities.

TWO MAYORS SELECTED—TOWN COUNCIL MEMBERSHIP.

The mayor is appointed by the town council, subject to the confirmation of the King of Prussia. When it becomes known that the office of mayor is to be vacant, applications for the position are considered by a committee of the town council, and if municipal officers have made especially good records in other cities they may be requested to apply, if they have not already done so. After a thorough discussion of the merits of the various applicants the appointments are made. In the administration of the city of Berlin there are two mayors—the ober burgermeister, or chief mayor, and the burgermeister, or mayor. The method of election is the same for each.

The town council also elects the other members of the city administration (magistrat) which, with the chief mayor and mayor, includes 36 members, 16 of whom are paid and 20 are honorary. The election of all the members except the two mayors must be confirmed by the governor of the Province of Brandenburg.

The members of the town councils are elected by the taxpayers. The latter are divided into three classes, according to the amount of taxes they pay; each class, although differing numerically, votes for an equal number of councilors. The councilors are, as a rule, excellent citizens, as it is considered a high honor to be elected to the council. No salaries are paid, and, if elected, a councilor is fined if he refuses to serve.

In addition to the town council, there are in Berlin about 90 citizen deputies chosen by the council from among the most distinguished citizens, to serve as associates on the various committees charged with the supervision of various municipal interests, such as parks, schools, the care of the poor, etc. They have no vote in the council, but cooperate with the councilors in managing the municipal affairs. The heads of the departments are appointed by the chief mayor.

FRENCH SAVINGS BANKS.

ECONOMIC VALUE TO A NATION OF POSTAL SAVINGS INSTITUTIONS.

In transmitting a report describing concisely the two classes of savings banks which are maintained under the laws of France, Consul-General Frank H. Mason, of Paris, writes:

In view of the existing financial conditions in the United States and the recognized importance of postal savings banks in encouraging economy and confidence in the stability of the Government on the part of the large class of small depositors, it is believed that the following facts concerning the long-established and successful French system may have a timely interest:

The steadiness of French finances and the general uniform prosperity of the people outside of the flood-devastated districts in the south have recalled attention during the present financial disturbances in America to the French monetary and banking systems, and particularly to the important and beneficial rôle which is played by savings banks in this country.

FRUGALITY AND THRIFT OF THE WORKING PEOPLE.

The French peasant and artisan have been known for many generations as the most frugal, industrious, and intelligently thrifty of European working people. Their patient industry, their love for the soil and for their various handicrafts, and their scrupulous care of their savings form the foundations of the prosperity of France. The French savings-bank system reflects so accurately these attributes that it forms an instructive object lesson in a time like the present.

Savings banks in France are of two classes: (a) Postal or Government banks, which are established throughout the country and are under the direct management and control of the National Government, and (b) municipal and private savings banks, which are controlled by municipalities and private firms, chartered and held accountable to strict laws similar to those which are enforced in several States in America.

POSTAL SAVINGS BANKS.

The postal savings-bank system was created under a law enacted on April 9, 1881, and the returns of 1882 show that during that year the number of banks established and in operation was 6,024, with 211,580 deposit accounts remaining open on December 31. The average sum of these deposits was $43.42, and the whole amount of deposits, including interest, in all the banks at the close of the year was $9,187,116.

The latest complete statistics now available are those which record the operations of 1904, at the close of which year the number of postal savings banks in France had increased to 7,883, with 4,345,446 depositors and deposits—including interest due to depositors on December 31—amounting to $229,158,290. As a measure of the serene prosperity of rural and industrial France, it may be stated that these deposits have steadily increased, until they reached on October 31, 1907, the sum of $267,519,423, an increase of $38,361,133 within a period of thirty-four months.

The postal savings banks pay interest on deposits at the rate of 2¼ per cent (compounded), and the amount of each cash deposit account is limited to 1,500 francs ($289.50). When a depositor's account exceeds that amount the bank will purchase "Rentes," or national 3 per cent bonds, with the surplus, keep them on deposit, collect the coupons when they fall due and credit the interest so received to the account of the depositor. The total deposits of 1904 in postal savings banks aggregated $88,144,416. The character of the depositors may be inferred from the fact that the average amount of each deposit account on December 31 was $52.79.

MUNICIPAL AND PRIVATE SAVINGS BANKS.

The official statistics classify together, under one general category, as "Caisses d'Epargnes Privées," savings banks which are controlled by municipalities and those which are operated by private firms or corporations. They are based upon statutes enacted June 5, 1835, modified on March 31, 1837, and again amended on June 22, 1845.

They began operation in 1835 with 159 banks and 55 branch offices, which had in that year 121,527 depositors and deposits amounting to $12,001,835 on December 31.

Banks, depositors, and deposits have grown steadily in number and amount during the intervening sixty-nine years, until on the last day of December, 1904, the latest date for which official statistics are available, there were in operation throughout France 550 municipal and private savings banks and 1,461 branch offices—in all 2,011 places of deposits—with 7,422,326 depositors and deposits, including interest due on December 31, amounting to the sum of $666,953,574. The average amount of each deposit account at the end of 1835 was $98.76, rose in 1884 to a maximum of $118.77, dropped in 1857 to a minimum of $54.93, and closed on December 31, 1904, at $84.41. Banks of this class pay interest on deposits ranging from 2 to 3 per cent, according to the length of time that the deposit remains undisturbed.

There were thus in operation throughout the country at the close of 1904, 9,894 savings banks, namely, 7,883 postal and 2,011 private and municipal, an average of 111 depositors in postal and 190 in private and municipal savings banks for every 1,000 inhabitants of France.

FISCAL LEGISLATION.

CHILE.

VARIOUS IMPORTANT LAWS ENACTED BY CONGRESS.

Secretary of Legation Henry L. Janes, of Santiago, has forwarded a translated copy of financial laws enacted by the Chilean Congress on August 27 and 31, 1907, which are placed on file for inspection at the Bureau of Manufactures. They provide as follows:

How import and warehouse charges are to be paid; saltpeter loans, and the establishment of a bank to issue gold bonds, secured by a mortgage on nitrate properties belonging to persons domiciled in

Chile; a foreign loan of £4,500,000 (£ = $4.86) to guarantee the paper money of the State; a loan of £3,000,000, the proceeds of which are to be used for the improvement of the port of Valparaiso, for railroad building, urban improvements in Santiago, etc.; the issuance, in thirty days, of 30,000,000 peso notes as legal tender, to be used to acquire bonds of the mortgage bank, whose price is not above par, etc.; fund of guarantee and redemption; how gold delivered in Santiago or deposited in the Bank of England may be exchanged for legal-tender notes; the remittance abroad of funds intended for the redemption of the paper money suspended while the rate of exchange is less than 17 pence (34 cents).

CHINA.

PROPOSITION FOR CURRENCY REORGANIZATION.

Consul-General James W. Ragsdale, of Tientsin, transmits the following from a newspaper in China concerning a proposition to amend the financial system of that Empire:

> The customs taotai of Tientsin, in conjunction with the salt commissioner, has sent a dispatch to the board of financial affairs dealing with the reorganization of the Chinese currency. The petitioners are in favor of gradually putting into force the following plan:
>
> First, the extension of the business of the Hupu Ying Hong, or Financial Bank of China; second, the accumulation of gold; third, the issuance of bank notes for circulation in the country; fourth, the limitation of notes issued by foreign banks in China; fifth, the prohibition of importation of silver from foreign countries; sixth, gold dollars to be coined only at such time when the reserve of the yellow metal in the vault of the imperial exchequer is sufficient for the purpose, otherwise there will be a great confusion in the Chinese markets and all descriptions of people will indiscriminately suffer.
>
> In view of the financial condition of the Chinese Government, the petitioners are of the opinion that China can not actually establish a gold standard until after twenty or thirty years. Taoti Liang and Commissioner Chow suggest the floating of a foreign loan of 60,000,000 taels (custom tael about 83 cents) upon the security of the Chinese railways, for the improvement of Chinese finances generally.

CRETE.

PROPOSED FINANCIAL AND TARIFF CHANGES.

Consular Clerk Constantine M. Corafa, of Athens, reports that a bill has been submitted to the Cretan parliament, and that a like bill will be introduced into the Greek Parliament, for the amalgamation of the Bank of Crete with the National Bank of Greece, the latter to establish offices and agencies in the chief towns of Crete and have the right to issue paper currency, but exchangeable by the bank for metallic money legally circulating in the island. Another bill has been introduced into the Cretan parliament empowering the island government to negotiate a loan of $2,180,900, part of which will go to reimburse those who suffered in the revolution, and the balance for public works to facilitate communication. For this service the import duty will be increased 5 per cent ad valorem, making the total customs rate of the island 13 per cent. A French engineer has made estimates for the expenditure of a total of $1,500,000 for the improvement of three Cretan ports.

MUNICIPAL OWNERSHIP IN MILAN.

STREET ADVERTISING TO BE CONTROLLED BY THE CITY GOVERNMENT.

Vice-Consul Ernest Santi reports that the municipality of Milan will take entire charge of the street advertising in the city on January 1, 1908, and that it is said that its example will be followed by Turin, Bologna, Leghorn, Naples, and Savona. The vice-consul adds:

This is the result of the law proposed by Minister Giolitti, and passed before the Italian Government on March 29, 1903, which requires the municipalization of public services in every possible way. At Milan the following have already been taken over by the city authorities: Drinking water, sewers, electric lights, street cleaning, public schools, funeral services, electric-car services for funerals. The street-car system is owned by the city and its operation is let to a company under contract. The city will now take over all advertising in the streets, with the following exceptions:

Election notices, manifests of public authorities, manifests attached to any part of a building, which refer only to that particular building, for letting, renting, etc.; any kind of religious printed matter attached to any part of churches; printed theatrical notices, when they are attached to the theater; any kind of printed matter attached to any building, house or shop, regarding the business of the residents of that particular building, notices before newspaper offices included.

The city authorities have decided to abolish the use of "sandwich-men" because the unkempt appearance of the persons so called is considered detrimental to the beauty of the streets.

BRITISH FOREIGN INVESTMENTS.

INCREASING CANADIAN HOLDINGS—CAPITAL IN OTHER COUNTRIES.

A Canadian paper has recently computed from the British and Dominion records the amount of British investments in Canada, showing an increase of about $500,000,000 in ten years. The table, which is furnished by Consul James H. Worman, of Three Rivers, is as follows (an English pound sterling equaling $4.86):

	Nominal value.		Market value.	
	1907.	1897.	1907.	1897.
Government stocks	£45,000,000	£33,000,000	£46,100,000	£34,500,000
Railways	164,000,000	89,000,000	158,000,000	61,000,000
Corporation stocks, banking, financial, lands, etc	16,100,000	11,800,000	29,300,000	13,300,000
Mines	2,800,000	800,000	3,000,000	1,000,000
Miscellaneous	24,000,000	6,000,000	26,000,000	6,800,000
Total	251,900,000	140,600,000	262,400,000	116,600,000

The nominal amount of this indebtedness of Canada to Great Britain is now $1,224,234,000, its actual market value being $1,275,264,000.

According to the Quarterly Review of London, Great Britain had invested in foreign lands in 1906 £3,150,000,000, or over $15,000,000,000, which was geographically distributed outside of Canada as follows: America, £1,167,800,000; Africa, £468,700,000; Asia, £436,500,000; Australasia, £346,100,000; and Europe, £201,500,000.

CHINESE BANKRUPTCY CODE.

LAW NOW IN FORCE ENABLES NATIVES TO CLEAR UP INSOLVENCY.

The following information regarding the Chinese bankruptcy code is transmitted by Consul Wilbur T. Gracey, of Tsingtau:

Recent local newspapers announce the appearance of an extremely useful little pamphlet containing a translation of the Chinese bankruptcy code of 1905, by Mr. Chang Nieh-Yun, with an editorial by a prominent solicitor in Shanghai, who is a well-known authority on Chinese law. The editor points out that in 1905, when Imperial assent was obtained for this code, it was a time when the cry of reform was loud and urgent, and the code, though containing the comparatively small number of 69 articles, as against the voluminous English bankruptcy enactments, makes a laudable step in the right direction by placing on record a set of rules to cover the insolvency of Chinese subjects and opening for them the way to clear themselves of their debts, instead of allowing them to merely languish in prison, possibly for years. The code was the work of certain Chinese students educated in Japan, and was revised by Wu Ting Fang, ex-vice-president of the bureau of foreign affairs of China, also the first Chinese barrister at the English bar, who was recently appointed Chinese minister at Washington.

Copies of the pamphlet can be obtained from the local booksellers in Shanghai and Hongkong.

MEXICAN FISCAL BUDGET.

STEADILY INCREASING GOVERNMENT REVENUES AND EXPENDITURES.

Mr. D. E. Thompson, American ambassador at Mexico City, forwards clippings from a Mexican newspaper on the subject of the annual statement of the finances of the Republic, submitted by Minister of Finance and Public Credit Limantour to the Chamber of Deputies. The articles, which are filed for reference at the Bureau of Manufactures, state, in part:

The results for the fiscal year 1906-7 show that the ordinary revenue in cash amounted to $114,286,122 (Mexican dollar=49.8 cents), and the ordinary disbursements $85,076,641. The surplus of $29,209,481 is greater than the total revenue of the Federation in the year 1885-86, and is equivalent to nearly 60 per cent of that revenue in the year 1895-96 (viz, $50,521,470), which is regarded as the first year in the fiscal history of Mexico that was wound up with a surplus. Minister Limantour estimates the expenditures for 1907-8 at $103,203,825, the increase to provide (1) for higher salaries for Government employees, (2) a system of retiring pensions, and (3) a special allowance to enable employees who have to give bond to pay the premiums to the surety companies. These measures evidence the solicitude of the Government for its employees in view of the increase in living expenses.

PERSONAL ECONOMICS.

COST OF LIVING.

GERMANY.

LIGHT HARVESTS AND ADVANCED PRICES.

Consul George Nicholas Ifft, of Annaberg, under date of November 20, furnishes the following information concerning the decreased harvests and the increased prices and cost of living in Germany:

From all parts of Germany sharp advances in the prices of the necessities of life, especially in foodstuffs and fodder for livestock, are reported. The latter have been noticeable during the past few weeks and are due, in a measure at least, to the unsatisfactory crops of the past year. The result is a strong upward movement in the prices of all foodstuffs. Meat is the only exception. It shows a slight tendency to lower prices, but is still above the figures of two years ago, and the slightly lower prices of to-day are, perhaps, due to the constant agitations for cheaper meat, which have continued uninterruptedly for two years past. In some instances municipalities have gone into the butchering business and have sold directly to the people, while in many places meat prices have been fixed by municipal enactment. Prices of milk, butter, and other dairy products have advanced in sympathy with the price of fodder, and the Imperial Bureau of Statistics notes, as well, advances in prices of tea, herring, vegetable oils, petroleum, tobacco, cotton goods, linen goods, woolens, etc. In fact, from this latter authority only two items, sugar and potatoes, are quoted as being cheaper to-day than they were a year ago.

During a recent debate in the Saxon Landtag, figures furnished by the Statistical Bureau of the City of Dresden were quoted comparing the average retail prices of the principal foodstuffs for the years 1903 and 1906. They showed that during that time foodstuffs had advanced as follows, per kilogram (2.2046 pounds): Beef, 4 cents; pork, 6.2 cents; mutton, 5.5 cents; veal, 5.7 cents; bacon (speck), 4.9 cents; lard, 3.6 cents; bread, 0.6 cent; beans, 1.7 cents; lentils, 4.9 cents; coffee, 5.2 cents; butter, 2.6 cents; eggs, 2.9 cents per dozen. From these figures it was estimated that the cost of living for the average workingman's family of four to seven persons had for 1906, as compared with 1903, increased about $11.19, and that of this increase $4.05 was on account of the higher price of meat. During the same debate in the Landtag, figures compiled from reports from 60 cities and towns in Saxony were quoted, showing increases in rent (for dwellings renting for from $71.40 to $238 per year) of from 10 to 13 per cent. Coal prices from the cities of Leipzig, Dresden, and Chemnitz, the principal cities of Saxony, showed increases of from 10 to 20 per cent, according to the kind and grade of coal.

FRANCE.

EXPENSES IN PARIS MUCH HIGHER.

Consul-General Frank H. Mason furnishes the following information concerning the increased cost of living in Paris and the causes assigned for such increase:

No one who has visited or lived in Paris for any length of time during the past year can have failed to notice a marked increase in most of the ordinary expenses of life therein. Prices at hotels and restaurants have advanced; marketing of nearly every kind, meats, fruits, and vegetables are dearer than ever before; even the cabman, who was formerly content with a tip of 3 cents, is now aggrieved if it is not at least 5 cents or more. These facts should be known and taken into due account by students and other Americans who, relying upon traditions of cheap and comfortable living in Paris, plan to make a more or less prolonged sojourn in this city.

A careful study of the markets, both wholesale and retail, which has been recently made by a trustworthy authority, shows that the following percentage increases in the cost of 23 articles of daily utility have taken place in Paris during the past five years: Bread, 15; beef, 22; veal, 14; cheese, 25; fresh fish, 50; preserved fish, 35; edible pastes, 20; confectionery, 25; edible oils, 15; petroleum, 10; gasoline, 30; coal, 34; charcoal, 24; chocolate, 25; candles, 10; household ironware, 25. This amounts to an average increase of 23.4 per cent on the whole list of articles named.

AMERICAN INFLUENCE—RENT ADVANCES.

It is a favorite theory of the native Parisian that much of this general advance in the cost of living, which bears so heavily upon the small-salaried and wage-earning classes, is due to the influence of foreigners, especially Americans, who come to visit or live in Paris and spend money in the lavish, easy-going way that they are accustomed to at home. There is, no doubt, more or less of truth in this. The prices of the great modistes, milliners, jewelers, and furriers of the Rue de la Paix and its vicinity reflect directly the extravagance of English, Russian, and, notably, American women.

Rents of rooms, apartments, and houses, which advanced from 15 to 20 per cent during the exposition year of 1900, have never receded since that time. The building of apartment houses and tenements, and the replacing of old buildings by new and more commodious ones, goes on steadily from year to year, but the number of people, both native and alien, who prefer to live in Paris increases even more rapidly, so that the hotel keepers and landlords are masters of the situation, and point to their increased taxation and the growing cost of food materials as the best justification for increasing or stubbornly maintaining rents.

THE HOUSE-SERVANT PROBLEM.

A French servant who has been employed for any length of time in an American family is considered by the better class of French people as spoiled for their service. Partly as an effect of this cause, partly in consequence of the socialistic ideas which prevail so largely among the working classes, and partly on account of the insistent readiness of the servant class in French cities to take advantage of every chance to increase their income, the cost of domestic service of all kinds has advanced at least 25 per cent since the spring of the year 1900.

The case is still further aggravated by the development of the "sou system" which has become the despair of frugal housekeepers in Paris. Under this system the cook or other domestic servant who does the family marketing is entitled to receive from the dealer a sou, or 1 cent, for each franc expended, that is, a commission of 5 per cent on the cost of all supplies purchased, which is naturally added to the price paid by the housekeeper.

This, however, is not all nor the worst feature of the system. The greed for commissions is an incentive to extravagant purchases, the waste of food and the paying of first-class prices for second-rate meats, fruits, vegetables, fuel, and other supplies. In some households the system is extended so far that the servants claim and receive the standard commission on gas, electricity, outside laundry work, and other essentials, with the provision of which they have nothing to do, except to make the consumption and monthly bills as large as possible.

FARMERS REAP BENEFITS.

The great compensating advantage in the general situation consists in the fact that a fair proportion of the increased cost of food products goes to the farmers, the gardeners, the poultry and fruit growers and the dairymen who produce them, so that the country people who cling to the soil and till it to an intensive fertility that is little less than marvelous are prosperous and for the most part content. The farmers of France harvested during the past summer 368,000,000 bushels of wheat, a surplus of 28,297,500 bushels above the normal bread-stuff requirements of the people, which thus becomes available for export.

FRENCH VITAL STATISTICS.

POPULATION, BIRTHS, AND MARRIAGES AS REVEALED BY THE CENSUS.

Consul-General Frank H. Mason, of Paris, advises that the French Official Journal of recent date contains an elaborate exhibit of the statistics which record the movement of population in France during the year 1906, which he summarizes:

From these it appears that the total population of the country at the date of census in March, 1906, was 39,252,245. Marriages numbered 306,487, an increase of 3,864 over those of 1905, and the largest total reached since the year 1873. It is expected that the number of marriages will be still further augmented by the effects of the new marriage code, which went into effect on July 1, 1907, and which simplifies in certain important details the complicated and difficult system which previously prevailed and prevented in many cases the consummation of the marriage rite between people of limited means and inconsiderate parents.

Divorces continue to increase, having been 10,573 in 1906 as against 10,019 in 1905, 9,860 in 1904, and 8,913 in 1903.

The whole number of living births was 806,847, the number of deaths, 780,196, giving an excess of births over deaths of 26,651, which is quite below the figure of 1905, when the excess of births numbered 37,120. Reckoned on a basis of the excess of births over deaths for each 10,000 of the population of France, it is found that the average excess for the five-year period 1901–1905 was 18, against 13 for the period 1896–1900, and only 1 excess for the period 1891–1895. In 1861–1865 the average yearly excess of births over deaths for each 10,000 of the population was 38, in 1841–1845 it was 54, and in 1821–1825 it was 67.

In this respect France makes a poor showing in comparison with other European nations, which report for each 10,000 of their people the following surplus of births over deaths for the period 1901–1905: Austria, 121; Hungary, 110; Great Britain, 121; Holland, 155; Italy, 106; Norway, 144; Sweden, 108, and Germany, 149.

The births of France in 1906 comprised 411,311 male and 395,536 female children, a proportion of 1,044 boys to 1,000 girls, which remains practically uniform in this country. The relation of the sexes in respect to death is naturally about the same, viz, 406,274 males to 373,922 females in 1906, being a total increase of 10,025 over the deaths in 1905, but a decrease of 3,183 from the average annual death rate for the ten years from 1896 to 1905, both inclusive. The best feature of the exhibit is the increasing number of marriages and a diminishing death rate among children under 1 year of age.

METHODS OF KEEPING THE RECORDS.

HISTORY AND PRACTICAL IMPORTANCE OF THE SYSTEM.

Consul-General Robert P. Skinner, of Marseille, furnishes the following information concerning the recording and keeping of vital statistics in France and the inconvenience and losses to which Americans abroad are subjected through the lack of such a system in the United States:

Very few Americans are able at this moment to produce documentary evidence of their birth, and not many more would know how to proceed to obtain a record acceptable in the law courts of the world concerning the first important event in their lives.

Every American who has had occasion to contract marriage in Europe can speak most feelingly of the embarrassment resulting from lack of care in the keeping of vital records in the United States. I recall one instance of a proposed marriage that had to be postponed until both parties could return to the United States, because of their inability, without cost and great trouble, to obtain the necessary papers. As a rule, when Americans find themselves in difficulties of this kind, their only method of escape is to pay a lawyer a fee for supplying a certificate containing the mortifying admission that there is no recognized system of keeping vital records in the United States, and that the individual is materially unable to satisfy foreign requirements in regard thereto.

The opposite of this situation prevails in Europe, and particularly in France, where records have been kept for a long time and with great care. On numerous occasions, by receiving from some American correspondent a French name, accompanied by a date and place of birth, marriage, or death, I have been able to complete a family history for several generations promptly, satisfactorily, and at trifling expense. In the most of these cases the settlement of estates was involved and the proofs were indispensable. In the United States questions of the same sort would have involved the taking of the testimony of living persons dependent upon their memories for their facts. In France the original records are invariably taken in the town hall, and in large cities two clerks simultaneously receive and enter the facts requiring registration and at the end of the day compare the results for the correction of possible errors.

French law takes notice of three epochs in the life of man—that is to say, birth, marriage, and death. The dates of these facts must be fixed by law in such manner that no doubt can be raised in relation thereto, and the legal proofs in connection therewith constitute what is called the État Civil, or civil state, which had its beginning in a law passed shortly after the French Revolution. Previous to 1789 the Etat Civil, in its then imperfect state, was controlled by the clergy.

DUPLICATE RECORDS—BIRTHS, MARRIAGES, AND DEATHS.

Under existing legislation the registers of the État Civil are kept in duplicate at the city hall, and at the end of each year one copy is deposited in the archives of the town hall and the other sent to the recorder of the department of county court. This arrangement has the double advantage of guarding against the destruction of these important records and of aggregating local records in the county seat, where they are at all times available for examination. Copies of entries can be obtained upon demand by any person willing to pay a trifling fee, and it is moreover customary for every French family to be fully equipped with a complete set of documents relating to itself.

The birth of every child must be declared within three days by two witnesses and with full details concerning the date of birth, legitimacy of birth, names, ages and residences of both parents, and any other important circumstance. The recognition of children born out of wedlock and the adoption of children are also carefully provided for.

Marriage in France is preceded by a careful examination into all the facts bearing upon each particular case. The marriage recognized by law is the one which is performed by the mayor of the commune, who signs an act of marriage in the proper register. It is usual at this moment for the new husband to take possession of a small official book in which his marriage is entered, and subsequently, as children are born, their births are similarly entered. A divorce is not effective until the act of divorce is spread upon the register of the proper commune.

Notice of death must be given to the officers of the État Civil of each commune within twenty-four hours by at least two competent witnesses, one of whom must be a physician. This declaration contains every important fact in relation to the deceased and, until this declaration has been made and the burial permit obtained under it, no undertaker would accept the responsibility of proceeding to an interment. The removal of bodies from one commune to another is also a matter which must be recorded and made the subject of a permit.

The formalities imposed by law are not burdensome, and having once been accepted by the people, provide so many safeguards for the interests of society and are so useful in the preparation of statistical tables that no one thinks of complaining of their operations.

MODERN HOTELS.

IRELAND.

DUBLIN PRESENTS AN OPPORTUNITY FOR SUCH AN ENTERPRISE.

Consul Alfred K. Moe reports that in Dublin a keen sense seems to be growing of the need for an apartment hotel such as are seen in large American cities, which leads him to explain the situation in Ireland's seat of government:

The present Dublin hotels are designed rather for transient than for permanent guests. It is certainly a distinct feature of modern life in this city that the tendency to live out of town is enormously on the increase. This may be due to the fact that the necessity felt for a country residence in the summer outweighs to a great extent the dislike to its many inconveniences during the winter, and further, that two establishments can not always be maintained because of the expense involved. It may also be due to the absence of convenient modern accommodation in town houses.

Another consideration which would impel people to take kindly to the idea of an apartment house is that the desirable houses are generally very large, very expensive, and—with an increasing servant difficulty—too inconvenient to keep up. The few and isolated " flat " houses that are now in Dublin are of the old type, with separate kitchens. Even for these apartments, with high rental for the accommodation offered, there is a long waiting list, it is said. Leases, elaborate and expensive, have to be made for fairly long terms to secure the privilege of residing in these flats. While of late years considerable improvements have been effected in the Dublin hotels they can not be ranked with the average hotel elsewhere for the number of conveniences and modern accommodations, especially for family residence.

LACK OF HOUSES FOR RENT.

There are not as many small houses in Dublin as there should be, considering the demand for such dwellings, especially in the better residential districts, and such small houses as there are can be had only on rather long leases—from three years upward. The rents, too, are somewhat higher than the premises would seem to demand in most cases. It will readily be noticed, then, that the man of small family with a fair income has not the advantage of renting or living in an apartment for a part of the year in such a way as to be entirely independent of his house neighbors.

The following extract from an editorial letter in one of the daily papers indicates how gladly Dublin people would welcome the advent of an apartment hotel, such as those of New York, Paris, or London, where furnished or unfurnished apartments could be had at reasonable rents, where meals could be served in private dining rooms or in the restaurant; in fact, such a place as would combine the privacy and comforts of a home with the freedom and advantage of a hotel, and still at moderate rates withal.

> This hotel might be designed to contain what would practically be a series of flats at varying rents and of different accommodation, with a common restaurant and private dining rooms, where residents could entertain their

friends. Or it might be arranged that there would be no obligation on residents to take their meals entirely at the hotel, but could do so as was convenient to them, or as an alternative, have an inclusive tariff for room and board.

Dublin, as Washington, is a city filled with a host of temporary residents, all of whom would gladly welcome an apartment house where they could secure a suite of rooms for a month or several months. There might be some difficulty about securing a suitable location for such a hotel in the central part of Dublin, but there are a number of large ground plots in excellent situations within fifteen minutes of the business section of Dublin, by street railway lines, which could probably be secured on long-term lease.

Considering the present unsatisfactory features of temporary residence life in Dublin, it would seem that there is a splendid opportunity for the investment of some capital in this direction, an opportunity entirely overlooked or neglected by investors nearer Dublin.

CHINA.

FIRST-CLASS HOUSES ARE MUCH NEEDED IN EASTERN ASIA.

The following report on the need of modern inns in China and the Far East is transmitted by Wilbur T. Gracey, American consul at Tsingtau:

There is an excellent opportunity in China for establishing good modern hotels, and positions are frequently open to first-class hotel managers. In Tsingtau there are two hotels of the first grade, run under the same management, and owned by a limited liability company. During the past summer several hundred guests have come to Tsingtau for the season, and this port is becoming the great summer resort of China. Most of these people have been obliged to live in the hotels, there being practically no boarding houses, and one hotel, located on the bathing beach, has secured most of the trade. This hotel is provided with 40 rooms only, and has been continually filled during the summer months. Many persons have come here from the other ports of China, expecting to secure accommodations, and have been obliged to put up at the town branch of this hotel, 3 miles distant. Continual complaints have been made of the inadequacy of the accommodation, and it is stated that practically all the rooms are engaged for the summer of 1908. Most of the guests patronizing this hotel are British from Shanghai and Tientsin, though occasional guests come for the summer from as far south as Hongkong and as far north as Newchwang.

The charges in Tsingtau hotels amount to approximately $4 to $4.50 gold per day, and other incidentals bring this up to probably an average of $5 to $6 gold per guest per day.

In Shanghai there are three good hotels, and a new one in process of construction, but they are all much inferior to the hotels of the United States, largely owing to the lack of knowledge on the part of the managers. Prices charged guests are high, probably more than double those of the same grade of hotel in America, and the cost of servants, food, etc., very much less than at home.

An organized hotel company with buildings at Shanghai, Hongkong, Tientsin, Yokohama, Kobe, and possibly Nagasaki, Peking, and Manila, with good managers in each port and a general manager spending a portion of the year in each hotel, run on modern American lines, with all conveniences, ought to pay well for the investment. The question of cost is not of great importance to the traveling public, who are willing to pay well for first-class accommodations, but at the present time no traveler will say that there is a really first-class hotel in the Far East.

NORWEGIAN TOURIST TRAFFIC.

INCOME OF SEVERAL MILLION DOLLARS DERIVED FROM FOREIGNERS.

The Travelers' Association of Norway publishes some statements regarding the foreign tourist traffic of 1906, based on information obtained and estimated calculations, of which the following compilation is supplied by Consul Felix S. S. Johnson, of Bergen:

The number of foreign tourists visiting Norway during May, June, July, and August, 1906, was about 34,342, against 20,827 for June, July, and August, 1902, and 16,776 for the same months in 1889. During the winter season 1906-7 about 1,200 foreign tourists are also supposed to have visited Norway. It is the general opinion of hotel owners that the foreign tourists of earlier years were better customers than those of the present time, the reason being that steam and rail communications were not so fully developed. The cost per day is now much more expensive, but the journey or trip is made in quicker time.

The question has been raised whether or not foreign excursion steamers are a source of income to the country, and the opinion is general that those steamers, as well as pleasure yachts, net the country a good income, for as a rule they buy their provisions in Norway, the chief purchases being fresh meat, fish, canned goods, fresh fruit, vegetables, and water. The steamers' coal bunkers are generally replenished in some Norwegian port. During their stay on shore from excursion steamers passengers largely purchase gold and silver ware, furs, antiquities, souvenir cards, articles of domestic industry, etc. As a rule the towns of Stavanger, Bergen, Aalesund, Molde, Christiansund, Trondhjem, Troms, and Hammerfest are visited.

The country's estimated total gross income from the foreign traveling traffic in 1906 is shown by the following table:

	Kroner.
Passenger transportation and fare on Norwegian steamers crossing the North Sea	450,000
Hotel and traveling expenses through country	7,370,000
Excursion boats and pleasure yachts	1,200,000
Hunting and fishing	1,136,000
Post, telephone, and telegraph income	85,000
Purchases by foreign tourists	1,600,000
Income during winter tourist season	300,000
Total	12,141,000

It is estimated that the capital invested in Norwegian hotels fitted up for the foreign tourists is at least 40,000,000 kroner (krone=26.8 cents), and that this branch of industry employs at least 5,000 persons.

FOREST PRODUCTS.

PRESERVATION OF RESOURCES.

IRELAND.

PROSPECTS FOR EXTENDING TIMBER AREAS IN THE ISLAND.

Consul Alfred K. Moe, of Dublin, finds that a propagandism of no mean dimensions is arising in Ireland looking to the preservation of such few existing forest plantations as are now in that country and to the organization of schemes for the establishment and advancement of practical and scientific forestry, the consul's review of which follows:

Many years ago Doctor Schlich made a study of Irish forestry in which he discussed such questions as the profitable utilization of mountain and heath land, the fostering of existing or creation of new industries dependent upon timber, and the provision of labor during the winter months in agricultural localities or in the vicinity of large cities. Other experts have from time to time investigated forestry conditions in Ireland; but from these investigations nothing has heretofore come.

It appears under the act creating the Irish department of agriculture in 1899, that the authority was given to that bureau or board to raise funds, collect information, and conduct experiments in order to aid, improve, and develop forestry in Ireland. But only within recent times has the department taken up the subject in earnest. Yet the advance made in this direction has already contributed favorable results in that a great interest has been developed in the subject of forestry and the methods to be used for establishing and preserving forest reservations. The department is at present conducting a school of forestry at Avondale in the County Wicklow, where they have established also a demesne for arboriculture. Here the woodland offers a good opportunity for the full development of the science and its instruction to a number of pupils.

PLANTATION EXPERIMENTS.

In this forestry department, which has now been in operation over a year, apprentices have been at work in the educational as well as the practical work of tree planting and tree caring. Fifteen acres have been planted with Douglas fir, Scotch pine, and spruce; the first named has been selected because of its rapidity of growth—almost twice that of Scotch pine or larch, and also because it is a good substitute for larch, which recently, in Scotland, where it was extensively planted, has been very subject to disease which threatens to impair, if not destroy, its usefulness.

The department has other groves which are managed in connection with the forestry school at Avondale. One of these is at Ballyfad, near Coolgreany in County Wexford; then there are lands belonging to other owners where it is expected that forestry may be taken up on a large scientific basis.

A plantation belonging to Lord Fitzwilliam which was planted with trees about fifty years ago is an object lesson for those who decry the use of land for such purposes instead of for agriculture. The soil on this land is very poor, and of little use for agriculture. This plantation has during its existence provided work for more laborers and other classes of workmen than four times the same area under cultivation would have given. At the same time it has proved extremely profitable to the owner; within the past year about $50,000 worth of timber has been sold from it, and a large quantity still remains uncut.

Mr. Ellison, who has charge of the forestry work for the department, has stated that he believes that timber growing if carried out on an extensive scale, would after a while bring trade and manufacture with it and thus increase remunerative employment, thus rendering emigration unnecessary.

HIGH VALUE OF LARCH—TIMBER PRICES.

A writer in the Journal of the Department of Agriculture for Ireland says, in reference to the commercial value of larch, that its value as timber lies chiefly in a remarkable combination of strength, durability, and lightness, being found for many purposes as durable as oak, almost as strong, and little more than half the weight. The larch will grow on land which is comparatively useless for other purposes, but which will produce a crop of this timber of greater value than that from other species grown on better land.

Larch is liable to the diseases known as "blister" and "heart-rot" at every stage of its development, but, fortunately for Irish forestry, larch disease is not nearly so prevalent in Ireland as in England or Scotland; and although spring frosts do a great deal of damage to the tree, most of the climatic conditions which prevail during the summer and early autumn are favorable for its recovery and rapid growth later on. But the market conditions of Irish timber are so inconstant, the quality is often so erratic, that the manufacturer of wooden articles can not depend on his home supply.

The Irish timber buyer is usually a timber dealer, who buys cheap to sell dear, but, between the buying and selling, the cost of freight from a remote district to an industrial center 200 or 300 miles away has often to be taken into account. Larch seems to obviate many of the difficulties present in other kinds of timber, and it is urged that larch is the only timber worth considering in view of the quick returns and the unlimited demand existing for it in the colliery districts of Great Britain. Larch is at the present time worth from $2 to $4 per ton in the wood, the minimum size being 4 to 5 inches in diameter at the small end.

Standing timber prices in Ireland, allowing of course for various local factors affecting demand and supply or other local market conditions, may be taken as follows, per cubic foot: Larch, 12 to 24 cents; ash, 24 to 48 cents; sycamore, 18 to 36 cents; oak, 24 to 48 cents; pine and spruce, 6 to 12 cents; beech, 8 to 16 cents; elm, 8 to 16 cents. Trees of exceptional quality, suitable for special purposes, or favorably situated, may make more. Timber which is most likely to come into competition with American wood, if forestry becomes general in Ireland, and a home market is created, are larch, Douglas fir, or Oregon pine, spruce, Corsican pine, ash, and Spanish chestnut. All these may be grown commercially in Ireland.

PULP WOODS—ACREAGE UTILIZED.

Another consideration for the impetus given to forestry lies in the large demand which may be created soon for wood pulp for the purpose of paper making in this country.

From the official handbook, edited by Doctor Coyne in 1902, we derive the information that only about 1½ per cent of the total area of Ireland is under woods, while over 23 per cent of the land is uncultivated. These figures, compared with other parts of the United Kingdom, show that England has 5.1 per cent, Scotland 4.5 per cent, and Wales 3.8 per cent. This report states, further, that there is annually imported into the United Kingdom from Sweden, Norway, Russia, and other countries timber valued at over $95,000,000, as raw material for industries and building purposes. Of this Ireland takes well over $5,000,000 worth.

During the period 1851–1901, the number of acres under woods and plantations varied from 304,906 in 1851 to 339,858 in 1880; and there has been an increase of 1.6 per cent, the extent in 1901 being 309,741 statute acres. Inquiries into forestry operations in 1901 show that 941,132 trees were felled. Of these, 462,481 were used for "propping," which appears to have been the chief use to which the timber of almost all descriptions was applied. The numbers applied to the principal specified uses comprise also 13,722 trees for sleepers, 24,712 for paling, 27,101 for fuel, 14,893 for furniture and building purposes, 4,981 for carts, wagons, etc., 8,550 for telegraph and telephone poles, and 3,615 for clog soles.

In connection with this question of Irish forestry the attention of the American timber trade is drawn to what appears to be an excellent market in Ireland. It must be also pointed out that correspondence will not achieve results; active representation is the only successful method of dealing with this market.

CANADA.

RESERVATION BY GOVERNMENT OF REMAINING LANDS.

Consul L. Edwin Dudley, of Vancouver, makes the following report on the husbanding of the forests of British Columbia:

The lieutenant governor of this province in council has issued an order placing all timber lands owned by this province which have not been leased under reserve. During the last three or four years leases to cut and carry away timber from provincial lands have been granted to hundreds of persons and corporations. A large proportion of the lessees are Americans and American corporations. These leases run for twenty-one years with privilege of renewal at the end of the first term. The lessee pays an annual rental of 25 cents per acre. When the timber is cut and removed the lessee pays a royalty of 50 cents a thousand feet board measure upon his output.

I have seen it estimated that the new leases granted during the year ended June 30, 1907, have yielded a revenue of about $750,000.

It has also been estimated that the renewals amount to more than $500,000 annually.

The provincial law does not allow the export of logs cut upon provincial lands. This has resulted in the establishment of many sawmills by persons and corporations from the United States. There are a number of new sawmills now being erected, and many others projected by Americans who have acquired leases upon large tracts of timber lands. The large revenue received by the provincial government from timber leases has been applied in part to the payment of outstanding obligations of the government, many of which would not fall due for three or four years. What effect the reservation of the timber lands will have upon the timber business in Washington and other Pacific Coast States is not yet apparent.

EFFECT ON LUMBERING.

Consul Abraham E. Smith, of Victoria, in corroborating the report of the withdrawal from license or sale of the timber lands of British Columbia, adds:

While it is estimated that there are in British Columbia approximately 150,000,000 acres of timber lands remaining unsold and unleased, it is also true that so far 6,500,000 acres, comprising the most valuable and accessible portions of the whole, have already been staked and generally are in possession of non-residents, mostly Americans, or syndicates backed by American capital.

The conditions heretofore prevailing have been most liberal and have been taken advantage of freely by dealers in timber in all parts of the continent. During 1907 the revenue to the government from timber licenses and sales has reached over $1,275,000, which has replenished the provincial treasury as never before in the history of the province. In November the financial minister was able to take up $500,000 of the bonds of the province, thus effecting a substantial saving in interest and raising the credit of British Columbia in financial circles.

While the placing of this reserve on balance of timber lands in the province not already leased or sold about doubles the market value of that already disposed of, there will be no shortage of timber in consequence. It is estimated that the total amount of timber held under the 10,000 licenses already issued, at a very low estimate, contain 3,200,000,000 feet of lumber. All the timber held under crown grants and otherwise is not included in this, and it is probable that the total figure would approximate nearer double the above figure than under it. The extreme total capacity of the mills of the province is estimated at under 350,000,000 feet a year, so it will be seen that at the very lowest estimate it would take ten years to cut the timber at present staked.

Of course the staking or leasing of timber lands does not insure the marketing of the product immediately, as the licensee has 21 years in which to strip his lands. Many of the holdings as staked have been purchased by speculators, who look to turning it over and not to handling it themselves. It is thought that the new order-in-council will encourage the bona fide logger to purchase and manufacture the product, and encourage the settlers.

CHINA.

REFORESTING INTEREST IN THE PROVINCE OF SHANTUNG.

The following information gleaned from a recent local paper published in China, is transmitted by Consul Wilbur T. Gracey at Tsingtau:

Closely connected with water questions on the one hand and with railroads and mining on the other, is the stupendous need of reforesting, not merely in Shantung but in North China at large. Two years ago about 500,000 young trees were set out with great care on the hill slopes immediately south of Tsinanfu, the capital of Shantung. The autumn drought of 1906 was too much for most of them, in spite of a small army of coolies employed to drag water to them from the wells in town. This year, however, I understand that those still alive are being looked after with renewed energy by the Government School of Agriculture and Forestry. The long drought of last June and July was hard upon them, but enough are left to give encouragement. A gentle but well-prolonged rain recently came in good time for the trees and for the new-sown wheat. It may be added that the school of agriculture was recently put into the hands of one of the most energetic and efficient government taotais of Tsinanfu. This officer is showing the greatest interest in the reorganizing of the school and in conserving the incipient forests. Two Japanese teachers have been employed and also an expert Chinese silk culturist.

It looks as if mining development might be seriously retarded in Shantung through lack of timber. Already the German coal concessionaires along the railroad are drawing on Japanese forests, while the Ihsien coal mines in Southern Shantung keep supplied with local timber only with the greatest difficulty. The mistake seems to be made of attempting to plant in the interior, with its ten months of almost cloudless sky, the conifers that love the moisture of the coast and of Japan. A recent visitor here from the United States Department of Agriculture, who knows North China conditions, advocates the setting out of the American locust, a rapid grower and an excellent mine timber. Certain kindred trees, acacias, and mimosas, planted on the hills, are getting along much better than the neighboring conifers.

RUBBER INDUSTRY.

COLOMBIA.

EXTENSIVE PLANTATIONS IN THE REPUBLIC—TAPPING RESULTS.

Consul Isaac A. Manning, of Cartagena, in forwarding samples of rubber gathered from Castilloa elastica trees in Colombia, makes the following statements in regard to this industry:

There is but little increase in the output of rubber in Colombia, though the establishment of plantations is extending. Reliable parties state that along the river Bando there are 400,000 rubber trees, and 200,000 trees along the Arquia. In the Sinu Valley there are said to be at least 1,000,000 trees in plantations, and of these only a very small number are yet being tapped. When all these rubber plantations reach the age when the trees can be tapped, the output of Colombia will not be so dependent on the wild trees and the Indian rubber hunter. The Government is also taking precautions to protect the wild rubber in the forests and thus prevent the total destruction of the wild trees, which are now frequently cut down and "sapped" to the last drop or tapped and allowed to bleed so long that the tree dies for lack of sap.

Many new experiments are being tried here, and among them is that of planting small trees, cutting them down annually and pressing the rubber from them, allowing the stump to remain and resprout.

Thus a great many trees may be planted on a small tract of ground, making cultivation easy, but the results are yet to be determined. There is a question whether the rubber is of equal quality with that of the mature tree, or whether the yield will be sufficient to make it a profitable business. The outcome of this experiment is being watched with interest by other rubber planters.

The question of yield per tree of the planted rubber is yet an open one, notwithstanding the " flowery " promises made by many rubber-scheme promoters. Under a general questioning, rubber planters will promise a pound of rubber to the tree, but in conversation with a gentleman who has charge of a large plantation on the Sinu River, recently, and who has just tapped 14,155 trees, approximately 8 years old, and including some old trees of the natural forest, a yield of 1,121 pounds of clear, dry, pressed rubber was obtained. From this result this planter estimates the yield of a rubber tree after it has reached its eighth year, where tapping is carefully made with a view to preserving the life of the tree, at 4 ounces of pure, clear rubber. This rubber was treated by straining to take out all foreign substance, then coagulated in water, and pressed carefully, so that as much of the water as possible was taken out. It was then dried for a week, with the foregoing result.

Other planters who seem to estimate results here on what the wild rubber has been known to yield, insist that the yield from a fully grown or an 8-year-old rubber tree should be, if properly developed and cared for, at least a full pound of dry, pure rubber. In Colombia, at least, this is all matter for further study and experimentation.

The exports of rubber from the port of Cartagena during the past five years have at least added to the income of the country, having been 666,170 kilos from January 1, 1903, to October 1, 1907, slightly more than one-half going to the United States. The total shipments for 1906 were 159,580 kilos, and in the first nine months of 1907, 136,680 kilos.

NICARAGUA.

A COMPANY FORMED TO CONTROL ENTIRE OUTPUT FROM PUBLIC LANDS.

Consul F. M. Ryder, of San Juan del Norte, advises that a joint-stock corporation has been formed which will control the output of all wild rubber in the Government forests of Nicaragua, concerning which he writes:

The enterprise is a consolidation of two concessions granted by the Government as owning the rubber on the domain of the Republic which was formerly considered the property of the individual or rubber cutter discovering and locating the trees. The new corporation will be known as the "Atlantic Industrial Company," with headquarters at Managua, and will have a capital of $300,000 gold, divided into 3,000 shares of $100 each.

One of the leases transferred to the company was purchased from a party who received the original concession from the Government, agreeing to pay therefor an annual rental of $140 for a period of ten years. The concessionaries were privileged to license all rubber cutters, and in addition to levy an export tax on all shipments not to exceed 10 cents per pound, which has been collected at the port of Bluefields ever since the lease became operative.

All of the rubber produced in the territory embraced in this lease is exported through this consular district, with the exception of a small quantity shipped by the way of Cape Gracias á Dios. In 1905 invoices were issued covering the export of 449,609 pounds; in 1906 for 408,329 pounds, and for 1907 the amount probably was not more than 350,000 pounds, owing to the damage caused by the hurricane in the fall of 1906. A fair estimate of the production in this concession is 500,000 pounds a year, so that the export tax would yield the lessees $50,000 gold annually. Besides, the licensing of cutters and the furnishing of provisions and outfits would amount to as much more. Consequently this concession will produce a gross income of $100,000, and in return for these valuable privileges the Government receives from the company $140 a year. Another concession will probably not yield as much, yet the surrounding conditions indicate an abundant supply, and the income will probably reach $50,000 annually.

BELGIUM.

HOW THE TRADE IS CARRIED ON IN EUROPEAN COUNTRIES.

Consul-General Henry W. Diederich, of Antwerp, sends the following information as to the handling of rubber shipments in Belgium and England:

In England and elsewhere rubber is sold either by private contract or public sale, but the merchants in Antwerp have adopted an entirely new method, called " sale by inscription," which is as follows: When the rubber to be sold arrives at Antwerp, a broker, who has the confidence of both sellers and buyers, sends out a circular estimating the value of the goods, and basing it not only on the quality of the rubber, but also on the general condition of the world's production and consumption, tangible or supposed stocks at the time of the sale, the requirements of manufacturers, etc. The circular also contains the name of the vessel by which the goods are imported, the name of the sellers in Antwerp offering the goods, the number given to each parcel, the approximate weight of each parcel, the broker's estimate, a brief description of the goods, and the date when the written bids are to be made.

This circular is sent out twenty days before the date fixed for the sale, accompanied by small samples, to all known buyers in the United States, England, Russia, Germany, France, and elsewhere, thus allowing them ample time to send in their bids. On the day of the sale the bids are sent in to the broker, who opens and inscribes them at 10.30 a. m., no bids being received after that hour, and all bidders are bound to their offer. These bids are inscribed by the broker on a document containing a number of columns. From this document the highest bid may be seen at once, and the goods go to the highest bidder, unless the seller uses his right to withdraw them. At 12.30 the buyers and sellers meet at the office of the broker, who officially communicates the result. Should it happen that the same bid has been made by two or more buyers for the same parcel, one of the four following methods is resorted to: First, one buyer obtains the parcel by voluntary consent of the others; second, the parcel is equally divided; third, lots are drawn; and fourth, the parties interested bid against each other.

MEXICO.

EXTENT OF THE GUAYULE RUBBER SUPPLY.

Consul-General A. L. M. Gottschalk, writing from Mexico City on the probable extent of the Mexican supply of guayule as a source of rubber, states that it is generally believed that at the present rate of consumption in the principal producing center (1,000 tons of the shrub a month) the large extracting factories have before them at best a five years' and the smaller ones a three years' supply before the contractible provision of the shrub is entirely consumed.

LUMBER TRADE.

JAPAN.

EXPORTS TO MANCHURIA, KOREA, AND THE UNITED STATES.

Consul-General Henry B. Miller, of Yokohama, supplies an abstract from a trade journal of Osaka which calls attention to the increasing exportation of Japanese timber for various purposes. It reads:

A marked increase is seen in the value of the export of timber from Japan. The value of railway sleepers, wood for tea chests, and timber planks exported this year up to the end of August amounted to about $4,343,000 gold. This compares with the corresponding periods of the preceding two years as follows:

	1905.	1906.	1907.
Railway sleepers	$351,000	$629,000	$1,060,000
Wood for tea chests	131,000	244,000	179,000
Timber and planks	1,051,000	1,964,000	3,104,000
Total	1,533,000	2,837,000	4,343,000

The values of "kyogi" (shavings) and match-stick wood exported for the same eight months' periods were $56,000 in 1905, $69,000 in 1906, and $74,000 in 1907.

Under present conditions it is expected that orders for wood will greatly increase, and the total value for the whole of this year is expected to reach $7,500,000.

The principal cause of this growth of the export of timber is the increase in the demand for the South Manchuria, Seoul-Fusan, and Seoul-Wiju railways, and the building of houses in Manchuria and Korea. There is also a noticeable increase in the demand for railway timber from the neighborhood of Tientsin, and the American demand for buna, nara, sen, and other wood produced in the Hokkaido for desks, organ stands, doors, and barrels is also greatly increasing, owing to the beautiful grain of these woods.

IMPORTS FROM OREGON AND WASHINGTON.

Of the imports of lumber from the Pacific coast Consul Miller writes:

Japan imported in 1904 timber of the quality produced in Oregon and Washington to the value of $138,780; in 1905, $162,532; and in 1906 the amount increased to $250,000. The trade in Oregon pine is mostly confined to long timbers and material for ship construction and flooring. The Government and the shipyards are the largest purchasers of this class of timber. [A list of Japanese lumber dealers is filed for inspection in the Bureau of Manufactures.]

MEXICO.

LARGE SUPPLY COMPANY FORMED AND POSSIBLE EXPORTATIONS.

Consul-General A. L. M. Gottschalk makes the following report from Mexico City on a large lumber enterprise:

A prominent American [name recorded at Bureau of Manufactures] has purchased near Mexico City 15,000 square meters (17,940 square yards) of land, which is to be devoted to the establishment of lumber yards, larger than any now in the Republic. It is proposed by the company that has been organized to keep in stock large quantities of native Mexican lumber, the proposed buildings to be sufficient to accommodate 8,000,000 to 10,000,000 feet of lumber and to compete as much as possible with foreign importers. The company controls large tracts of timber in the northwestern part of the Republic and has already entered into arrangements for rates and tariffs to New York, Liverpool, and Havre. They will probably export through the port of Tampico, which is rapidly becoming one of the great export outlets of the Republic.

Mexican lumber has during the past few years been generally used in the country and has successfully satisfied the tests of railroad construction; hence it is probable that if the new company carries out its plans there may be a noticeable decrease in American exports of Oregon and Georgia pine to Mexico.

NEW SOUTH WALES.

ANNUAL INCOME TO GOVERNMENT FROM THE FORESTS.

The report of the forestry branch of the department of lands of New South Wales, Australia, for the year ended June 30, 1907, is summarized by Consul F. W. Goding, of Newcastle, as follows:

There was an all-round increase, amounting to $36,786 in the receipts, equal to 17 per cent advance on the revenue for 1905–6, the proportion of expenditure to receipts being a trifle higher than during the previous years. During the year an extensive inspection of the forest reservations of the State was undertaken by specially appointed boards, which reported on 362 forest reserves, embracing an area of 2,429,782 acres, and recommended for disposal 591,024 acres. The total area included in reserves for preservation of timber was 7,456,045 acres.

The value of imported timber was $3,498,663, and of exported $1,773,663. India took of the timber shipments $568,850 worth; New Zealand $508,266; Philippine Islands $155,382; South Africa $113,700; and Germany $78,958. The number of sawmills at work during the year was 338, and the number of persons employed therein 3,642. The value of plant and machinery was estimated at $1,269,231. The output of native timber for logs totaled 119,338,000 superficial feet, valued at $6,057,965.

CANADA.

CONDITION OF THE LUMBERING INDUSTRY IN BRITISH COLUMBIA.

Consul L. Edwin Dudley reports from Vancouver that most of the largest logging camps in British Columbia closed the middle of

November, with the outlook that the logging industry will be substantially at a standstill until next spring. The reasons given and conditions are as follows:

There is at present no demand for logs of any description. Some of the mills, operating their own logging camps, have also laid off part of their crews. In spite of the lack of orders, the price of lumber and logs has been maintained. It is asserted that there will be no slaughter of prices of either logs or lumber during the winter. The high cost of labor and the small demand for logs are urged as reasons for the general closing down of the industry. In consequence of this and the general diminution of building operations during the winter months there are already many unemployed men, and the prospect is that the number of workers unable to find employment will be largely increased. Notwithstanding these unfavorable conditions the wages of laboring men are held firmly at the prices that have prevailed for the last twelve to eighteen months.

FRANCE.

AMERICAN LUMBER AND BOX SHOOKS IN MARSEILLE.

Replying to an inquiry in regard to the French market for American box shooks and building lumber, Vice-Consul-General Paul H. Cram, of Marseille, reports as follows:

There is a demand here for American red gum, at prices ranging from 75 to 125 francs (franc, 19.3 cents) per cubic meter (35.314 cubic feet) c. i. f. Marseille, according to quality and thickness. As to wood for box making, local dealers say that they find sufficient for their needs in either France or the island of Corsica, and American exporters must be prepared to meet quotations ranging from 35 to 40 francs per cubic meter in order to do business in this line. The rise in the price of American oak has resulted in diminished importations of that wood, which is selling at 100 to 160 francs per cubic meter c. i. f. Marseille. This is not an importing point for apple and cherry woods. The retail firms do not undertake import business, and offers should be made to wholesale dealers [list obtainable from the Bureau of Manufactures].

PAPER MAKING.

RAW MATERIALS.

CANADA.

UTILIZATION OF FORESTS FOR MANUFACTURE OF PULP WOOD.

Consul James H. Worman, of Three Rivers, contributes the following information on the utilization of Canadian and Newfoundland forests for paper-making material, and of the efforts to conserve the timber resources in the Dominion:

American capitalists have bought some 500 square miles of valuable timber areas in Newfoundland and will at once begin the erection of mills for the manufacture of pulp.

One large American paper company, owning extensive and valuable forest areas in the Province of Quebec, notably along the St. Maurice River, with mill headquarters at Three Rivers and Batiscan, has recently acquired vast areas on the lower St. Lawrence, and is running mills in Gaspe County, Quebec. From its Three Rivers and Batiscan mills exports are made not only to the United States but also to England, the European Continent, and South America. The same company has also recently acquired large timber interests in New Brunswick, for which the consideration is said to have been $250,000. It is also reported that it is negotiating for lumber and milling interests at Marysville, New Brunswick, which will include, if carried out, the Blackville plant and the timber limits and licenses on the Nashwaak. The consideration is reported to be over $2,000,000.

SUPPLIES FOR AMERICAN MILLS.

The pulp and paper mills of Wisconsin, Michigan, and Pennsylvania have this year been seeking pulp wood on both the Quebec and Ontario sides of the border adjacent to the territory tapped by the Temiskaming and Northern Ontario Railway. They are buying all the material available for delivery this season and in some cases making contracts for supplies for several seasons ahead. Wisconsin parties who own pulp wood areas on the Quebec side of Lake Temiskaming are planning to cut their timber this winter into 16-foot lengths, raft it in the spring down the lake to Halleybury, where the Temiskaming and Northern Ontario Railway is building a spur line to the wharf, rail it thence to North Bay, where it will be dumped into Lake Nipissing, to be again rafted to Georgian Bay, and thence transferred for loading into the company's barges for conveyance to Wisconsin.

A new pulp and paper mill is to be built up out of the old Chatham pulp mill, which closed down some years ago. Its new capitalization is $300,000, and as incorporators appear several American capitalists.

HOME MANUFACTURE DISCUSSION.

The Ontario government, which forbids the export of saw logs, will now accept tenders for her pulp-wood concessions only from bidders who will agree to the manufacture of all of their pulp wood into paper within that province. There is considerable agitation over the same question in the Province of Quebec, and there is a move on foot at Ottawa to secure unified legislation by the imposition of an export duty on pulp wood and wood pulp in order to cause the upbuilding of the paper industry in Canada on a larger scale. These interests lose sight of the following facts: First, the lack of railway facilities; second, the inadequacy of the Canadian paper mills; third, the dependence of the Canadian farmer, especially in the eastern provinces, on the lumbering camps during nearly one-half of the year for employment, and returns on their own pulp wood; fourth, the timber limits in Newfoundland are not subject to legislation by the Dominion government.

Lieutenant-Governor Tweedie, of New Brunswick, in an address on the preservation of the forests before the St. Johns' Canadian Club, after urging a complete survey of the Crown lands of the province, and their division into districts and classification according to quality of lumber, etc., referred to the proposal to prohibit pulp wood export to the United States for manufacture there, saying that he did not see that many pulp mills would be built in that province for years to come, and unless they had pulp mills of their own it was not good business to prevent the export of wood. Better forest fire protection laws were strongly urged upon his hearers, and he quoted Maine's laws favorably. He emphatically protested against the cutting of timber under the regulation size. He also urged the establishment of a chair of forestry in the University of New Brunswick.

NORWAY.

INCREASING DEMAND UPON THE FORESTS FOR WOOD PULP.

Consul Felix S. S. Johnson, of Bergen, contributes the following review of the wood-pulp industry of Norway:

Both the wood-pulp and paper manufacturing industries of Norway are in a flourishing condition. For a long time Norwegian pulp wood has played an important part in supplying the world's wants, while a considerable local demand has been met. Thus, Norway's exportation of paper and products of paper amounted in 1906 to 97,413 tons, with a value of 16,353,200 crowns (crown=26.8 cents), while the quantity and value of exportations of all kinds of wood pulp have been as follows for the years named:

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	Tons.	*Crowns.*		*Tons.*	*Crowns.*
1869	60	9,000	1901	382,846	22,660,700
1870	500	80,500	1902	447,470	24,736,800
1871-1875	4,587	395,000	1903	447,744	23,876,600
1876-1880	18,644	1,710,500	1904	445,260	24,290,600
1881-1885	67,909	4,704,600	1905	442,325	27,620,400
1886-1890	152,170	8,616,200	1906	505,627	31,982,400
1895	246,225	13,467,600			

The wood-pulp exports in 1906 may be classified as follows: Mechanical wood pulp, dry, 13,059 tons, and wet, 362,228 tons;

chemical wood pulp, dry, 122,923 tons, and wet, 7,417 tons, a total of 505,627 tons. The share taken by each country in 1906 was as follows:

Country.	Tons.	Country.	Tons.	Country.	Tons.
Sweden	440	Belgium	45,699	India	546
Denmark	17,154	Spain	6,975	China	130
Russia	101	Portugal	924	Japan	125
Germany	8,015	Italy	899	Australia	300
Great Britain	292,371	United States	19,277		
France	85,808	Mexico	1,014	Total	505,627
Holland	25,449	Argentine	100		

The portion shipped to the United States was entirely dry chemical wood pulp.

Great Britain, France, and Belgium are the largest buyers of Norwegian pulp wood, a portion of that exported to Belgium and Holland being sent in bond to other countries.

COMPETITORS, PRICES, AND PULP MILLS.

The principal countries competing with Norway in sales of pulp are Sweden, Finland, and Canada. The exportation in 1906 of wood pulp and cellulose from Sweden (according to the Commercial College) was 414,811 tons, and from Finland (according to the Central Bureau), 56,181 tons.

The price of pulp has in the course of years fluctuated a good deal. For example, the price of dry mechanical pulp in 1869, 1870, and a portion of 1871 was 150 crowns per ton; in 1891 the value of a ton was 29 crowns, which price was ruinous to the manufacturer. Prices of the several kinds of wood pulp in the month of August, 1907, per ton f. o. b. in Norway, were as follows: Mechanical, dry, about 95 crowns; wet, about 50 crowns; chemical, dry, about 145 crowns.

The first Norwegian pulp mill was established in 1863. There are now 72 factories, 53 for the manufacture of mechanical pulp and 19 for chemical pulp. Wages of employees in the pulp mills and paper factories were estimated at 7,500,000 crowns in 1906.

All of the machinery used in the manufacture of mechanical wood pulp and almost all of that used in the manufacture of chemical wood pulp is made in Norway. One factory uses in the manufacture of cellulose quantities of Norwegian pyrites. It is calculated that the proprietors of the forests received 20,000,000 crowns in 1906 for wood used in the pulp industry.

FORESTRY RESOURCES.

The development of the Norwegian pulp industry has been rapid, and although about 20 per cent, or 67,500 square kilometers (kilometer=0.62 mile), of the area of Norway is covered by forest, it is feared that if the consumption of wood continues at the present rate it will be only a matter of a very short time until the forests will be depleted. The price of logs has almost doubled since 1870, and they are largely exported as wood. It has been estimated, however, that the present national consumption of wood is not so great as formerly, owing, so the superintendent of the forests claims, to its high price. The Norwegian Government plants about 1,500,000 trees in the forests each year, and in addition much good work is done by individuals and societies interested in the maintenance and betterment of forests. The Norwegian Forest Society has since 1901 planted about 30,000,000 trees and cultivated or prepared large tracts of land. The Norwegian Storthing for many years has voted appropriations to this society, which receives like assistance from the Norwegian wood-pulp and cellulose manufacturers, the association of lumber exporters, lumber merchants, and proprietors of forests.

ALGERIA.

ALFA GRASS OF AFRICA FURNISHES A NEW PRINT-PAPER MATERIAL.

An American paper company having asked Consul-General Robert P. Skinner, of Marseille, to obtain information in regard to a North African growth called esparto grass, from which paper is made, and such details as may be available, with a view to broadening their field, he supplies the following report:

As my correspondents are apparently interested in a low grade of paper suitable for the manufacture of bags and wrapping paper, they doubtless intend to describe alfa grass, for which an increasing demand is now noticeable, and not esparto grass, or in French "sparte," which is a form of jute, and is used in the cordage and woven-bag industry. North Africa, and particularly Algeria, is supplying annually increasing quantities of alfa grass and aloes, both of which are used in the manufacture of paper. Alfa grass is now quoted at about 6 francs per 100 kilos ($1.16 per 220 pounds) on dock at Oran, while aloes are quoted at from 75 to 80 francs per 100 kilos ($14.47 to $15.44 per 220 pounds) at Marseille. Alfa grass is used in France for the manufacture of a coarse gray wrapping paper, and in England for the manufacture of print paper, while aloes, seven or eight times more expensive, are absorbed by manufacturers of high-grade papers. Alfa grass grows more or less throughout the African desert region, and is an annual, cut and harvested like hay. It is said that practically an unlimited supply is available and that it is expected to furnish the print paper of the future in France. A leading London daily, it is said, has for some years been printed on alfa paper. There is an extensive and increasing exportation of this material from Algeria to England. Oran dealers in alfa are able to ship from 80,000 to 100,000 tons per annum alone, and all other Algerian ports can furnish considerable quantities. The business is now carried on most extensively at Oran.

English manufacturers have been the first to interest themselves in this article, and have made rapid advances in converting it into paper. The French Government is also interesting itself in the subject, because of the present high price of wood pulp, and there is talk of establishing at the sources of supply, in Algeria, and possibly Tunis, mills for the manufacture of pulp. The following table shows the amount of alfa exported from Algeria in recent years:

To—	1900.	1901.	1902.	1903.	1904.	1905.	1906.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
France	2,189	2,727	2,110	2,246	4,489	3,121	2,002
Other countries[a]	94,394	68,004	68,072	72,751	75,823	84,023	100,005
Total	96,583	70,731	70,182	74,997	80,312	87.144	102,007

[a] England takes up nearly the total.

[The addresses of Algerian exporters of alfa grass are recorded at the Bureau of Manufactures.]

SPAIN.

NEW TRACTS OF LAND PLANTED WITH TREES TO PRODUCE PULP WOOD.

The decision of "La Papelera Española," or Spanish paper combine, at its recent meeting in Madrid, to erect large wood-pulp works at Aranguren alongside one of their existing paper mills, according to Consul-General B. H. Ridgely, of Barcelona, draws attention to the steadily growing importance of the paper industry in Spain, to which he adds:

The new works will have a daily output of 15 tons of pulp, calculating it in the dry state. A contract has been made with the Hidro-eléctrica Iberica Company, of Bilbao, for the supply of 1,200 horsepower, and it is expected that the works will be in full operation by October, 1908. The combine was formed about seven years ago for the purpose of acquiring by purchase the control of all the leading paper mills in Spain. The capital is now 35,000,000 pesetas (about $6,000,000), and its annual production amounts to 30,000 tons, composed principally of printing and writing paper, although many other varieties both of paper and cardboard are produced and supplied to every town and village in Spain.

EXPORT TRADE—PULP AND PAPER MILLS.

A considerable export trade is carried on, Mexico being the chief foreign market for Spanish paper. A special quality of printing paper, which is sold at 60 pesetas (about $10) per 100 kilos (220 pounds), finds a ready sale in Great Britain, while the Central American republics are also good customers. It has been the policy of the company not only to free itself from dependence on foreign countries for its supplies of raw materials, but to endeavor to lower the cost of production in every possible way. With this object in view, suitable tracts of land have been leased and planted with trees. The number of pulp works is being annually increased, and they are being erected in close vicinity to all the principal paper mills. Pulp works are already established at Renteria, Oroz-Betelú, Villava, Segovia, and Villalgordo, and to these will now be added the new factory at Aranguren.

The company's paper mills are situated at Aranguren and Arrigorriaga, in Vizcaya; Renteria, in Guipuzcoa; Illarramendi and Olarrain, near Toloso; Villava and Oroz-Betelú, in Navarra; Villanueva de Gallego, near Zaragoza; Valladolid, Polazuelos, near Segovia; Besalú, near Gerona; Fuensanta, near Albacete, and Puente de D. Juan, near Cuenca.

A great deal of brown straw wrapping paper is exported from Barcelona, Porto Rico alone taking annually about 210,000 reams, valued at $27,350.

WOOD-PULP INVENTION.

A NEW CANADIAN COMPANY WILL UTILIZE SAWMILL WASTE.

A report from Consul L. Edwin Dudley, of Vancouver, states that unusual interest is manifested in a new $1,000,000 company organized in that British Columbian city, owing to the fact that it will use the vast waste material from the saw and shingle mills, including the sawdust, which is now burned at some expense to prevent large accumulation. The consul explains the plans and the proposed processes:

This company first contemplated the establishment of its plant at Aberdeen, Wash., but was forced to abandon that location, because it was found that the supply of fresh water was insufficient. After a thorough investigation it finally aranged for the purchase of 80 acres opposite Gambier Island on Howe Sound, 20 miles from Vancouver, at the entrance of Rainy River, where there is an abundant supply of water at all seasons.

By utilizing the water power of the Rainy River, the company will develop sufficient water power for mechanical and domestic use, and for a series of mechanical grinders for the manufacture of ground wood, which is used to supplement chemical fiber in the manufacture of paper. The plan is to convey the refuse of the local mills, of which there is said to be 3,000 tons in this vicinity, in specially prepared scows to the plant, where the entire mass is to be disintegrated into suitable fineness for conversion into wood pulp. This will eliminate the expense incident to the use of uniform cut wood, which is said to be the only method now in general use by the paper mills throughout eastern Canada and the United States.

One of the innovations of the new company is a patented process whereby it can use Douglas fir and other resinous woods in the manufacture of wood pulp. Papermakers in the past have never been able to use woods containing pitch and resin for paper purposes, owing to the difficulty in separating the cellulose from the pitch, resin, and essential oils; by the new process all those parts are passed off in vapor and the fiber is recovered by subjecting the mass to a system of pressing.

PROCESSES AND MACHINERY EMPLOYED.

The company now has in operation in Vancouver a complete but small plant for the manufacturing of pulp and paper, which fully demonstrates the process and which is both ingenious and simple. The wood is first placed in what is known as a chipping machine and reduced to small shavings, the shavings pass up a flume and enter a digester, which consists of a large perpendicular, copper-lined circular reservoir that ordinarily ranges from 8 to 12 feet in diameter and 24 to 48 feet in height. The digester is filled with a solution of caustic soda, and the entire mass of shavings, ranging from 8 to 10 tons, is thoroughly cooked under a high pressure of steam for several hours, until the cellulose is thoroughly released.

The mushy black mass is then removed to the draining floor or press, where the caustic soda is separated as much as possible from the fiber. The material then passes to the beating machine, which consists of a wooden or metal tub 10 or 15 feet long, with round ends, on the center of which is a partition called midfeather. A roller is provided with knives and it revolves over a bedplate of similar knives. The distance between the bedplate and the roller is regulated by a wheel and screw. The pulp, after it passes between the bedplate and the roller, flows down the backfall and around the midfeather back to the starting point. The machine is also provided with a washing cylinder, which is so made that as it revolves it scoops up the water, which flows through its axis; the pulp is kept out by a fine wire gauze surrounding the cylinder. A large quantity of water is admitted into the heater, which is removed by the drum washer, and the pulp is in this manner rapidly cleansed.

EASE OF MODIFICATION AND CAPACITY.

During the process of the beating this pulp is colored or bleached to any color desired. The bleaching is accomplished by a solution of chloride of lime. After passing through the beating engine, the whole mass is run through a Jordan refining engine. This machine consists of a stationary hollow comb, mounted with knives on the inside, which fit over a solid rapidly revolving comb mounted with similar knives on the outside. The pulp passes between the combs, and the knives can be brought close together or separated with great accuracy, so that the degree of fineness of the pulp can be adjusted. The material is then run into what is known as a pulp pit, where it is taken up by the large fourdrinier machines and run into merchantable paper of different character and fineness.

The plant, as outlined, will have a capacity of 360 tons of finished material per week, consisting of 200 tons of news and 160 tons of manila, wrapping, box boards, building paper, etc. In addition to the local trade, the company proposes entering the markets of Australia and New Zealand, Japan, and the western United States.

As the writer witnessed the working of this exhibition machinery, the thought occurred that there are many uses for cellulose. The new apparatus seems to have demonstrated the practicability of converting the waste of fir and cedar into cellulose at an expense which may enable other possessors of this material to follow the process described.

FINISHED PRODUCTS.

CUBA.

TOTAL IMPORTATIONS AND THE SHARE OF THE UNITED STATES.

Answering an inquiry as to the importation of paper into Cuba, Consul-General James L. Rodgers, of Habana, writes as follows:

The total importation of paper in sheets during the year 1905 was 2,143,609 kilos (kilo equals 2.2 pounds), of which the United States furnished about 50 per cent, and Germany, Spain, and France about 15 per cent each. In the shape of paper bags, envelopes, etc., there was an importation in 1905 of 1,007,668 kilos, of which the United States furnished nearly 75 per cent and Germany about 19 per cent. Of all other classes of paper in the year 1905 there was imported 6,280,280 kilos, of which Germany furnished about 40 per cent, Spain about 20 per cent, the United States about 13 per cent, and France about 10 per cent. The detailed statistics for 1906 are not as yet available.

The consumption of paper in the Republic is steadily increasing, and as its use is broadly indicated, any prospective exporter should send an agent for the purpose of thoroughly investigating the market and local conditions before attempting to participate. The largest consumers of paper are the various newspapers of which there are a goodly number. [The largest direct paper importing houses of Habana are listed with the Bureau of Manufactures.]

SERVIA.

GOVERNMENT DESIRES SAMPLES AND PRICES OF SUPPLIES.

Woislav Petrovitch, clerk of the American consulate at Belgrade, reported under date of December 18 that the opening of bids for the supply of paper to the Servian Government for 1908 was to take place on December 28, 1907, and adds:

As such adjudications are very often adjourned repeatedly, for lack of satisfactory prices and qualities which Servian and Austro-Hungarian firms offer, it would be desirable for American firms to also submit samples and prices on all kinds of paper, especially writing and print paper. These will receive due consideration by the manager of the Ministry of Finance. Prices should be in French francs (19.3 cents) f. o. b. New York, and also delivered in Belgrade. Quantities must be given in the metric system, and correspondence in German. The total value of paper and paper goods imported into Servia in 1906 amounted to $552,936. [Samples of previous paper purchases of the Servian Government and the chief dealers in Servia in paper and stationery may be secured from the Bureau of Manufactures.]

GERMANY.

REENFORCED WATERPROOF WRAPPING PAPER.

Consul Thomas H. Norton, of Chemnitz, reports that there are two large establishments near that city engaged in the manufacture of waterproof packing paper of various grades, but all falling under the following categories: Brown paper coated on one side with asphalt and the same reenforced by a wide-meshed cotton gauze; translucent yellow paper, impregnated with oil, and the same reenforced with wide-meshed cotton gauze. The gauze is firmly attached to the side of the paper coated with asphalt by pressure, while the coating is in a viscous condition; it is incorporated with the oiled paper in a similar manner while the paper is in a soft condition. Linseed oil, either pure or treated by special process, is used for impregnating the paper. The muslin used to reenforce such papers is either pressed into the surface while the paper is soft and moist or attached later by gumming and pressing. [Samples of the papers and gauze, and prices and sizes of papers are on file in the Bureau of Manufactures. A letter has also been received by the Bureau giving the name of an American manufacturer of these goods.]

TEXTILES.

COTTON-GOODS INDUSTRY.

ASIATIC TURKEY.

BRITISH LEAD IN SALES—IMPORTS FROM AMERICA EXPANDING.

Consul W. C. Magelssen, writing from Bagdad, furnishes the following information concerning the consumption of cotton goods in that part of Asiatic Turkey:

Cotton goods form the principal item of imports into Bagdad and their consumption is yearly increasing. Their value exceeds more than $1,000,000 annually. The most important Bagdad houses have their own buyers in Manchester and these supply the local market with only such goods as they know will find favor here. British cotton manufacturers study the requirements and wants of the people with whom they desire to transact business, and the result is that seldom, if ever, does a British cotton-goods consignment arrive here that can not be quickly disposed of. Some thirty years ago Bagdad firms had no buyers in Manchester; to-day fifteen native merchants have branch houses there. The great bulk of the cotton importations is British. Terms of payment are cash on arrival of goods, though sometimes a credit is allowed after arrival.

During the past year Italy has made strong efforts to share in this market, and the quantity of cotton goods hitherto imported from that country has trebled. Direct shipments from Italy were made, but more important consignments came via Syrian ports, where Italian manufacturers make frequent calls and where they are represented by agents who extend their business operations to these parts. In hosiery Italy stands at the head as the supplier of this market's wants, while the cotton-cloth importations have consisted mainly of prints. Austria is also making progress in the Mesopotamian cotton market.

AMERICAN GRAY SHEETINGS FINDING FAVOR.

It is not many years since American cotton goods found their way to Egypt and the Sudan. Five years ago Syrian houses placed important orders with American firms for cotton goods to be shipped to the east and west coasts of the Red Sea. Gradually American cotton goods have worked their way to Jibuti, Aden, Bombay, and Karachi, and are now slowly working their way up the Persian Gulf. In Koweit and Bahrein American gray sheetings, 30 inches wide and 36 yards to the piece, are finding favor, and from these ports they are being distributed to interior points of Arabia, where they are known under the name of "Americani." The same quality of cotton goods that sells in Persian Gulf ports are suited also for this market. American gray shirtings have made their appearance also on the Persian side of the gulf, having come through Bombay commission houses, and from all accounts they are being kindly received. All the gulf ports maintain close connections with Bagdad, and in view of the importance of the latter city in this part of the world it would seem that this market is well worthy the attention of American cotton manufacturers.

Bagdad supplies northwestern Persia with foreign goods of many kinds, and owing to the constant development of these regions, the importance of Bagdad as a commercial center is daily increasing. The substitution by the natives of imported goods for those of local manufacture and the increasing popularity of the diverse varieties of cotton goods among the Arab tribes present many attractions to European exporters, and American manufacturers will do well to follow their example and keep a sharp lookout on developments in Turkish Arabia.

The imports of Manchester goods show a decrease for 1906, owing to high quotations and distant deliveries. The year saw a shortage in the imports of English gray yarns. India quoted cheaper prices and supplied Bagdad with about 3,500 bales, valued at $28,000. Some 250 bales of bleached yarns have come from Great Britain, their value being some $40,000.

COLOMBIA.

THE METHODS OF OPERATION OF A FACTORY AT CARTAGENA.

Consul Isaac A. Manning, of Cartagena, reports that under the protective duty of 34 cents American gold per kilo (2¼ pounds) on cotton goods of the character manufactured by The Fábrica de Tejidos de Cartagena, that factory seems to be prospering. He describes its equipment, operations, and effect on imports:

The plant occupies a ground space of 58,126 square feet, the factory being one story, and gives employment generally to 160 employees, all natives of this country, including the superintendent and chief engineer. The factory consumes only Colombian cotton, and its present output is 1,000 pieces (40 yards each) per month of cotton drill. The machinery is all of English make, with the exception of one American cotton gin. There are 6,116 spindles, and 104 looms, and the factory consumes about 80,000 kilos of ginned cotton per annum.

The cotton is produced principally in the department of Bolivar, the factory paying 2½ to 4 cents per pound, delivered, for the unginned cotton, which makes the cost about 12 cents American gold per pound for the ginned cotton. The cotton seed is exported, principally to England, while the cloth is sold entirely in Colombia. The drill sells for an average of 9 cents per yard, which means a total output of $40,000 to $45,000 per annum.

The laborers are principally women and girls, although some men and boys are also employed. The average wage is 40 to 50 cents per day. The factory has a total daily capacity of 2,000 yards, although it never runs to its full capacity, closing down at night. The factory is prepared to turn out shirtings, muslins (unbleached) and other cotton goods of this character, but it finds the drill the most profitable. Some samples of the goods made here which will give our manufacturers an idea of what they must compete with, are forwarded herewith [and will be loaned by the Bureau of Manufactures to the American cotton milling trade].

Notwithstanding the output of the local factory and of two others in the interior of the country, the importation of cotton cloths of all kinds through this port during the half year ended June 30, 1907, reached the amount of 493,825 kilos in weight, of which 263,952 came from England, and 185,425 from the United States, the rest from Italy (25,383), Germany (9,061), Spain (6,633), and France (3,371).

CALAIS MACHINE LACE.

DEVELOPMENT AND PRESENT PROSPERITY OF THE INDUSTRY.

The following report has been prepared by Consul James B. Milner, of Calais, in answer to a communication from a correspondent in the United States interested in the machine-made lace industry:

The preeminence of the French city of Calais as a lace center is chiefly due to the cleverness of its lace makers. It should be borne in mind that a lace loom, although of the most intricate mechanism, is still only an instrument, the production from which depends entirely upon the ability and intelligence of its operator. Calais has ambitious citizens, among whom exists a spirit of rivalry and a desire to excel, not only financially, but in art. The greater part of the French people here believe in having something which they can call their own and are not disposed to let one man run everything. Their mental make up and manner of working render monopolies of an industry of this kind impossible. This characteristic alone, perhaps, has contributed more to the success of Calais in recent years than any other, since lace to be beautiful must receive in its fabrication the greatest care and attention, which is too often overlooked in a large concern. Calais has a population of 70,000, about 60,000 of whom gain their existence from lace making, yet very large concerns do not exist here. On the contrary, there are 650 small factories in Calais, in many of which the wife adds her intelligence to that of the husband in making the factory a success. Machine-made lace is almost the sole industry of Calais.

LACE SUCCESSFULLY PRODUCED IN AMERICA—TECHNICAL SCHOOLS.

That a lace machine can be operated successfully in the United States is no longer an open question. It has been tried by curtain manufacturers in Philadelphia and other cities, and also in the manufacture of lace in New York, Providence, Pawtucket, Paterson, and Zion City. Already the lace industry is of great importance in the United States. As proof of this the following statistics from a French source may be cited: For the fiscal year ended June 30, 1906, the United States consumed $40,400,000 worth of lace goods, of which the home supply was valued at $7,200,000; that from France at $10,300,000; from Switzerland, $11,200,000; from Germany, $6,000,000; and from Great Britain, $5,700,000. It thus appears that the United States made for itself 17.8 per cent of the lace consumed therein in 1906. Of the French shipments, $7,420,715 worth, or 72 per cent, was from Calais. In this estimate account is only taken of the lace goods declared for shipment at this consulate, no account being taken of some large houses which declared their shipments at other consulates. Should these be taken into account it would show that Calais, Caudry, and St. Quentin furnished at least 80 per cent of the lace goods shipped during the above year from France to the United States.

In Calais there is a technical school, under the supervision of Abbé Piedfort, which has for its object the training of young boys in the technics of the lace industry. This school embraces sketching designs, designing (i. e., reducing the sketch to the mechanism of the loom), lace making, "metteur en œuvre," and "regleur." The two latter are professions in the lace manufacture for which no English names have as yet been employed. The "metteur en œuvre" and "regleurs" may be said to be the mechanical doctors of the loom.

NUMBER EMPLOYED AND VALUE OF OUTPUT.

In Calais, Caudry, and St. Quentin there are in all about 1,040 factories. Their many looms turn out enormous quantities of lace, which, after it is dyed, has to be clipped of its surplus threads. The output of the largest factory amounts to about $500,000 annually. It is difficult to give the output of an average factory, as they have from 1 to 60 looms.

As to the number of inhabitants who live wholly from the making of lace in northern France only an approximate opinion can be given, but it can be conservatively estimated at 100,000. The clipping of the surplus threads employs, irregularly, in the villages within 50 miles of Calais and surrounding Caudry and St. Quentin, another 100,000. Of course, as to these no accurate statistics can be had, but one visiting the many villages about Calais can see everywhere in every household women and girls engaged in clipping lace. In estimating the population engaged in and sustained by this industry no account is taken of the spinners of the threads used in the fabrication of lace. The spinning industry is enormous at Lille. Many fortunes have been made there spinning the thread for Calais, Caudry, and St. Quentin. Much thread also is imported from England. Merchants have, even in Calais, grown rich in furnishing lace manufacturers with thread.

The approximate output of the lace industry in Calais, Caudry, and St. Quentin is about $20,000,000. The industry in the last three years has increased more than 50 per cent in Calais. Everywhere are to be seen proofs of this prosperity in the way of new buildings, new residences, automobiles, etc.

INCREASED EXPORTS DUE TO LACE INDUSTRY.

In a previous report relative to the machine-made lace industry of this city, in which a comparison was made between the exports of Calais and Nottingham, England, to the United States, a mistake was made which did injustice to both Nottingham and Calais as to the amount of exports of these two industrial centers to our country. The exact statistics are therefore given herewith. In the following statement the figures for the fiscal years ended June 30 embrace not only lace, but all kinds of exports from these two cities:

	1906.	1907.	Total for both years.
Calais	$7,480,714	$9,318,991	$16,749,705
Nottingham	6,279,614	7,510,255	13,789,869
Difference in favor of Calais	1,151,100	1,808,736	2,959,836

It can be seen that the total exports of Calais for the last two fiscal years to the United States exceeds the total exports of Nottingham for the same period, substantially, $3,000,000. This showing in favor of Calais is due to the fact that in the past five years the lace industry has increased at least 50 per cent in its productive capacity and also to the favor with which Calais laces have been received in the American market.

WOOL TRADE OF NATAL.

REVIVING SHEEP RAISING INDUSTRY AND THE MARKETING METHODS.

The following report on South African wool production has been prepared by Mr. Alphyon Richardson, clerk in the Durban consulate, upon the suggestion of Consul Edwin S. Cunningham, who, after investigation, indorses the statements:

While the wool trade of Natal has passed through many vicissitudes, it has bright prospects. From the earliest days of settlement here, wool has been one of the chief articles of export, and although other things, such as coal, wattle bark, and corn, lately have come into the first rank of exports, wool still remains and will continue to be one of the greatest assets of this part of South Africa. In the years immediately preceding the Boer war wool exported from Natal averaged nearly 70,000 bales per annum, resulting in a steady and substantial profit to the sheep husbandman. The war reduced the exportation of wool to one-fifth its former quantity. Since then pastoral industries have been recuperating, and flocks and herds have multiplied until to-day they are nearly as numerous as before the war.

DURBAN'S SHARE OF TRAFFIC—VARIOUS QUALITIES AND PRICES.

The wool which finds its way to the marts of Durban comprises the bulk of the Transvaal's production, and perhaps 20 per cent of the yield of the Orange River Colony, in addition to that grown in Natal. New railroads, connecting Natal and the Orange River Colony, have attracted hither much trade which formerly passed through the ports of Cape Colony. These railways have made Durban the natural port for all the northeastern parts of the Orange River Colony, and further extensions of rail may bring a still greater proportion of that territory's product to Durban, though Port Elizabeth and East London will probably retain a large share of the traffic of the southern half of the Orange River Colony.

The wool produced in the two inland States is pure merino, but on account of poverty of pasture, and consequent dirtiness of the fleece, it is not so much in demand as is the wool of the cross bred sheep which are bred in Natal. Natal wool is shorter, but being grown on richer pasture its yield after washing is of higher percentage than that of the merino grown in the interior.

In the absence of restrictions against indiscriminate passing to and fro across the colonial boundaries, exact statistics can not be given as to the source of much of the wool which comes to Durban. Farmers and traders on the border dispatch their produce by rail to the coast, and the actual origin may have been on either side of the dividing line. It may be estimated that three-fourths of the wool shipped from Natal is grown in the Transvaal and Orange River Colony.

In marketing the grower puts his produce on rail or sells it to the inland trader, who in turn dispatches it from the nearest station, consigned to one of the auction marts in Durban. Here it is pressed, still in the grease, into bales weighing roughly 400 pounds each, and put up for auction. Brokers, representing clients abroad, then buy the qualities and quantities for which they hold orders, paying prices which include cost of pressing and which vary as the world's supply and demand fluctuate. So sudden and great are the changes of price that it is almost impossible to quote, for any quality, a figure which can be relied upon; but it is stated that the prospects for the coming year indicate lower rates. A rough index to general prices may be found in the rates paid at one of the principal wool marts in Durban during the past season. Taking all classes of wool into consideration, the average price, during that period, was 6.9 pence (14 cents) per pound; but this figure must not be taken as a basis of future calculation.

DESTINATION OF EXPORTS.

After purchase at auction, the wool is shipped to England and the Continent of Europe, the latter being the chief consumer of the Natal product. The entire output is exported, as the manufacture of woolen goods has not proved successful in this country.

In former years America bought a small amount from Natal, but this trade has fallen into insignificance within the last twelve years. It should be said, however, that American buyers, who may contemplate the purchase of South African long wool, should do so between September and January, as after the latter month lambs' wool comes to the market, and there is difficulty in securing better lengths. The freight on wool from Durban to New York is 1 cent per pound, plus 10 per cent primage, which is returnable as rebate to those shippers who conform to the terms of the steamship companies' circular.

In the calendar year 1906 the exports of wool (not including mohair, which never is of great amount in this colony) from Natal were 241,761 pounds, of a value of $78,900. In the same year Port Elizabeth and East London together exported 177,518 bales, much of which was produced in Cape Colony. The wool season in Natal is reckoned from October 1 to September 30, and in the last nine years, so defined, the exportation of wool has been of the following amounts (the years 1899–1900, 1900–1901, and 1901–2 being the war period):

Year.	Bales.	Year.	Bales.	Year.	Bales.	Year.	Bales.
1898–99	67,139	1901–2	23,859	1903–4	29,519	1905–6	45,736
1899–1900	13,902	1902–3	35,282	1904–5	35,589	1906–7	58,592
1900–1901	27,674						

In the present wool season it is anticipated that the antebellum amount of exportation will be equaled, and that the bad effects of the war will have been overcome. [A list of the wool buyers at Durban is filed at the Bureau of Manufactures.]

FLAX AND LINEN.

IRELAND.

REDUCED PRODUCTION OF LINEN LOOMS.

Consul Samuel S. Knabenshue reports the following action of the linen-weaving trade in Belfast and district:

At a meeting of the Power Loom Manufacturers' Association (which includes all the linen-weaving establishments in the north of Ireland), the following resolution was adopted:

> Owing to the unremunerative state of the trade, we, the members of this association, hereby bind ourselves to reduce the production of our looms, other than harness looms, by at least 20 per cent, this resolution to hold good for three months from November 25.

The reasons for this action are understood to be as follows: The prices of linen yarns are so high, as compared with the prices of finished goods, that the weaving mills can not produce at a profit. It is stated that in certain lines the prices obtained have not covered the cost of the yarns, to say nothing of securing even a fractional profit. The spinners are oversold, and hence have no motive to reduce the prices of yarns.

On the other hand, the steady advance in the prices of linen goods for the past eighteen months have brought them to a point at which consumers prefer to turn to unions and cottons to supply their wants, rather than to take linens at present prices. Therefore a further advance in prices of linens is deemed impracticable.

INVESTIGATION OF FLAX CULTURE IN BELGIUM AND HOLLAND.

In July last the department of agriculture and technical instruction for Ireland sent a deputation of five to Belgium and Holland to study the methods of growing and handling flax. The report has just been issued by the department, and is summarized as follows:

> The land of both countries is porous and deep and is uniform to a depth of 4, 5, and even 6 feet. The porosity and depth enable crops to tide over wet seasons, while in dry ones the deep soil allows the roots of crops to reach moisture. In the Courtrai district of Belgium the deputation commends the thoroughness of every step in flax culture. Tillage operations and manuring are as thorough as in garden cultivation. Flax is sowed in rotation, not oftener on the same ground than once every seven or eight years. As a rule, every crop in the rotation is manured, either with the farmyard product or with chemical fertilizers. The heaviest application is to the crop immediately preceding the flax, the only application to the latter being liquid manure two to four weeks before the seed is sown.
>
> In the Lockeren and St. Nicholas district the methods are similar to those practiced in Ireland, with certain exceptions. The retting is allowed to proceed further than in the Irish method. After retting, the flax is spread upon grass and allowed to lie, in some instances, for six weeks. It is frequently turned, especially after every shower. This is done by using a long pole, which is pushed under the row of flax, and a length of about 12 feet is turned at each thrust. This frequent turning is claimed to give a more even bleach. The seed is removed by rippling, and it is held that the value of the seed pays for all the handling operations up to but not including scutching. The seed in Belgium is used for feeding, not for sowing.

In Holland the deputation found the practices in flax culture and rotation of crops much the same as in Belgium. The flax is allowed to stand in the field until the seed is ripe enough for sowing purposes. It is noted that the fiber does not appear to be injured by this. Some samples of scutched flax obtained by this process were examined by the members of the deputation and were deemed equal to first-rate Irish flax, which is grown and pulled with a view to fiber only.

In conclusion, the following points are emphasized as being the principal factors in the success of flax growers in those countries: First, early plowing in autumn and very thorough cultivation; secohd, manuring in small dressings applied with frequency; third, careful saving of all liquid manure; fourth, thorough weeding of the flax crop.

FRANCE.

BOUNTY PAID ON THE CULTIVATION OF FLAX AND HEMP.

Consul Chapman Coleman, reporting from Roubaix, says that the French Government has asked Parliament for the usual annual appropriation of $439,075 for bounties in 1908 to producers of flax and hemp, the methods of payments being thus:

The bounty is fixed at about $14 per hectare (about 2½ acres), and the minimum area of cultivation, entitling a producer to the benefit of the bounty, at about one-tenth part of that area. The total annual expenditure must not exceed $482,500, and pro rata payments are made when the aggregate of the bounty assessments exceeds the amount of the available appropriation. The bounties actually paid for the year 1906 amounted to $402,940, and cost of their administration to $22,178.

These bounties are accorded for the purpose of supplying the important French linen and hemp textile industries, especially the former, with raw material of native growth. The manufacture of linens is the principal industry of Lille, the most important seat of that industry and the best market for flax in France. Much raw material is imported from neighboring countries for use in the Lille factories, and American flax of good quality should find ready purchasers at good prices.

SILK RAISING IN JAVA.

SUCCESSFUL ESTABLISHMENT OF THE INDUSTRY.

Consul-General Henry B. Miller, of Yokohama, forwards the following Japanese newspaper note relating to the establishment of silk culture in the East Indian island of Java:

Various attempts have been made during the last few years to introduce the Japanese silkworm into Java. These efforts were mostly unsuccessful in consequence of the eggs hatching out before reaching their destination. A method of checking the development of the eggs has now been discovered, however, and the Japanese silkworm has been successfully introduced into Java, where the climate is well adapted to silk culture and where a rather prosperous silk industry exists in the neighborhood of Batavia, thanks to the energy of a wealthy Chinese sericulturist, who until lately used worms of other origin, and who already exports his silk to Europe. We have been shown a skein of silk from Japanese silkworms reared by him, the first to arrive in Japan. It is somewhat heavier and slightly coarser than the silk raised in this country, but the quality is good and the thread even.

INDUSTRIES AND LABOR.

INDUSTRIAL WORLD.

MEXICO.

MODERN MEAT-HANDLING ABATTOIR READY FOR OPERATIONS.

A report from Special Agent Arthur B. Butman states that a notable example of the commercial and industrial advance now taking place in Mexico is that of the recently erected packing house at Uruapan, in the State of Michoacan, which he thus describes:

The construction was begun about two years ago, the main refrigerating building, 55 by 85 feet, with 40-inch walls, being built of volcanic rock brought on the backs of the small Mexican burros. All the other structures are of brick. A branch railway connects the plant with the main line of the Mexican National Railroad, 1½ miles distant. The buildings and yards, which are on the same lines as the great packing establishments of Chicago, cover about 20 acres. The most modern equipment has been installed throughout, including the ammonia-brine system of refrigeration, with two 65-ton ice-making and refrigerating machines, one for chilling meat, the other for manufacturing ice, and two coolers 76 by 112 feet. The power is electric, with machinery in duplicate. Two 275-horsepower turbines are employed, with two electric generators of the same capacity, the power being distributed throughout the plant and operated by small motors in the various departments, thus insuring independent operation.

AMERICAN MACHINERY EQUIPMENT.

The water power, which is derived from the Cupatizio River, dammed 2,900 feet above the plant, is conducted by a canal to the premises, where it has a 70-foot fall, and furnishes a motive of 750 horsepower. Forty-five carloads of machinery, nearly all of American manufacture, has been employed in the equipment of the plant. The electrical equipment was especially manufactured in the United States, as was 95 per cent of all the machinery used. Fifty refrigerator cars recently arrived consigned to the company from Birmingham, England. The cars are narrow gage and fitted with interchangeable trucks. The packing company states that every effort was made to secure these cars in the United States, but no manufacturing concern would undertake to deliver them under nine or twelve months, nor guarantee delivery even in that time.

The location of the packing house at Uruapan is especially favorable, as statistics show that of live stock produced in Mexico, 60 per cent of the cattle and 40 per cent of the hogs come from within a radius of 100 to 125 miles. The usual by-products—lard, butterine, oleo oil, etc.—will be manufactured. The present capacity of the plant, which is built to enlarge as occasion requires, is 750 cattle, 500 hogs, and 500 sheep and goats per day. Machinery for a canning establishment has already been ordered, and plans are being perfected for the construction of a tannery and a shoe factory, each modern in detail. It is expected to have 5,000 cattle on the ranch owned by the concern at the time set for the opening of the plant, on January 1, 1908, and 275,000 head are contracted for during the next two years. The packers expect to supply not only the Mexican market, but to reach out for export trade.

A cold-storage plant, wholesale and distributing market, with a capacity of 700 beeves, has just been completed in Mexico City by the company, and work was begun the first of December on a similar cold-storage plant in the city of San Luis Potosi, situated in the State of the same name.

NICARAGUA.

GOVERNMENT MONOPLY OF TRADE IN MATCHES AND WAX TAPERS.

Consul Frederick M. Ryder, of San Juan del Norte, advises that the President of Nicaragua has issued a decree creating a Government monopoly of the importation, manufacture, and sale of matches and wax tapers in that Republic, the particulars being as follows:

From January 8, 1908, all consumers must purchase these articles from Government agents only. These officials are empowered to take over such stocks (at cost price) as may be in the hands of merchants, and also from individuals who, in the estimation of the official, may have a greater quantity than is deemed necessary for immediate use. The fact that these may have been in their possession one month or one year previous to that time, and regularly entered at customs and receipted for by proper officials, will not avail. All persons having such goods in their possession on January 1, 1908, must notify the Government agent, or be liable to indictment as smugglers and punished as such.

At various times the Government has decreed similar monopolies upon certain products, such as tobacco, alcohol, aguardiente (native rum), explosives, gunpowder, and shot, and the revenues have been collected by the Government for a time, but it has invariably resulted in being leased by individuals upon payment of a specified sum or annuity during the life of the contract, and the prices of the commodities have been excessively increased. Matches are not manufactured in this Republic at the present time, but it is rumored that a factory will soon be erected for the purpose, with an up-to-date equipment. The supply now comes principally from Sweden and Germany, importations from the United States during the past year amounting only to about 20 per cent of the total consumption.

CHINA.

JAPANESE CEMENT WORKS IN KWANTUNG LEASED TERRITORY.

Consul Roger S. Greene reports that the Onoda Cement Company, of Japan, which has large works at Tokuyama, Yamaguchi prefecture, has received a grant of 1,488 acres of land at Paotzukai in the Kwantung leased territory, about 7 miles from Dalny; for the purpose of establishing a large cement factory, the details being as follows:

Suitable limestone is found in that region, but the clay is to be brought from the neighborhod of Pulantien, about 40 miles farther north. A cement of the same grade as that now made in Japan is to be turned out. It is understood that the company plans to invest about $498,000 gold in this enterprise, and that the works when completed are to have a capacity of 1,000,000 barrels a year. The president of the company, who has been making preliminary arrangements, left on November 1 for Europe via Siberia, presumably to buy machinery in England. He is expected to return in three or four months and the construction of the works will be begun next March.

While it seems that the company has already determined to buy principally in Europe, there may be an opportunity for American manufacturers to sell special articles. The company has its head office in Tokyo. Manufacturers having agents in Japan will probably find it best to take up the matter through them. The establishing near Dalny of a productive industrial enterprise of such proportions should prove of the greatest benefit to this region and should encourage its development along natural lines.

BRAZIL.

INDUSTRIAL IMPORTANCE OF AN UNDEVELOPED WATER POWER.

Consul George A. Chamberlain, of Pernambuco, sends a comprehensive description of the Paulo Affonso Falls and the San Francisco River, situated in that part of Brazil. The falls are 230 miles from either Pernambuco, which has a population of 200,000, or Bahia, with 230,000 people. The average volume of the river is 1,000 cubic meters (1 cubic meter=35.316 cubic feet) per second, and between Jatoba and Piranhas, a distance of about 65 miles, the fall is 756 feet, 400 of which takes place in the rapids, extending about 15 miles. This vast undeveloped water power will become in time the nucleus of a great industrial circle. A new cotton mill is being erected near Penedo, and there are a few other small factories using this power, but these little establishments are almost nothing compared to the industries which the great river should foster. [Mr. Chamberlain's complete report may be consulted at the Bureau of Manufactures.]

EMIGRATION.

BRAZIL.

COMMISSIONERS TO EUROPE APPOINTED—FORMATION OF COLONIES.

Deputy Consul-General Joseph J. Slechta, of Rio de Janeiro, advises that official commissioners have been selected for the purpose of turning a larger share of European emigration toward Brazil, concerning which he adds:

The headquarters of the commission are to be in Paris, with a commissioner in the capitals of Germany, Italy, Spain, and Austria. In the near future this organization is to be extended to provide for agencies in each of the more important sea ports of the countries mentioned. The inducements to be offered by the Brazilian Federal and various State governments are only to agricultural immigrants. Those will be given preference who are prepared to settle with their families on the farms provided in the so-called nucleus colonies. To all such prospective immigrants who are not otherwise objectionable free transportation will be furnished from the port of embarkation. It is intended that these commissioners shall arrange for the publication of propaganda and advertising matter in the various European countries where they are located.

Advices from the State of Rio Grande do Sul indicate that extensive preparations are being made for taking care of a large number of immigrants, one colony in that State having 200 farms ready for occupation. In the State of Minas, Geraes, and Sao Paulo several colonies have been formed. In the former State the authorities have made large purchases of agricultural machinery from American concerns for distribution to settlers.

CHINA.

SETTLEMENT OF MANCHURIA BY MONGOLIANS.

Consul-General James W. Ragsdale sends from Tientsin the following newspaper item concerning the plan of the Chinese Government to settle natives from other provinces in Manchuria:

On the recommendation of Viceroy Tuan Fang, the Chinese Government has appointed the Manchu lieutenant-general, Ching Hsien, to be officer in charge of the transportation of poor natives to Manchuria for agricultural purposes, for the provinces of Kiangsu, Kianghsi, and Anhui are too thickly populated at the present time. After the arrival of the emigrants in Manchuria each man will be given 10 Chinese acres of arable land for cultivation, without taxes of any kind, for a period of five years, while all cattle and tools required by the farmers will be supplied by the Government free of charge.

All married men are permitted to take their families with them to Manchuria, so that they may settle there permanently. General Ching is consulting with Viceroy Hsu Shih-chang, of Manchuria, at Mukden about the matter, which will be put in force next spring if possible.

ARGENTINA.

NO PLACE FOR EMIGRANTS FROM UNITED STATES WITHOUT CAPITAL.

In reply to inquiries from the United States concerning the inducements and opportunities in Argentina for American emigrants, Consul-General Alban G. Snyder, of Buenos Aires, writes as follows:

While the opportunities for the advancement of American commerce are almost illimitable, this is no place for men without capital, and while men with small capital might do well, there are so many obstacles that even these have better opportunities in the United States. Many Americans, led on by false reports and buoyed up with hopes of finding homes and fortunes in Argentina, encountering conditions of which they never dreamed or little thought, and realizing their mistake too late, have called at this consulate-general for assistance, which should serve as a warning to others against taking similar steps, the results of which might wreck their future.

[The foregoing is introductory to a long report descriptive of Argentina and of the resources of its various provinces, which is filed for public reference at the Bureau of Manufactures.]

ITALY.

CONTINUED EXODUS, MOSTLY TO TRANSOCEANIC COUNTRIES.

Consul James E. Dunning, of Milan, reports that during the first six months of 1907 the total emigration from Italy amounted to 452,328 souls, of whom 195,198 went to other European countries and countries in the Mediterranean basin, and 257,130 crossed to transoceanic countries. For the same period of 1906 the total movement was 458,613, of whom 172,510 went in the first category and 286,103 in the second. There was a greater degree of emigration during this period from the northern provinces, and a decrease from Sicily, Calabria, and other districts in the south.

ELECTRICITY AND GAS.

DENMARK.

DEVELOPMENT OF ELECTRIC CURRENT THROUGH USE OF WINDMILLS.

According to Consul-General Richard Guenther, of Frankfort, German papers state that in Germany wind motors as power generators for use in agricultural and industrial pursuits are rarely met with, but that in Denmark their use has increased very greatly. The consul-general continues:

Since 1897 the Danish Government has contributed about $28,000 for equipments and has even lately erected an experimental station at Askoc. A technical writer describes these experiments, which were made on the initiative of the Danish Government, and also some of the electric works in Denmark which generate electricity by means of wind motors. According to his statements, motors with 4 wings have given the best results, as a smaller number of wings does not fully utilize the wind power, while a larger number acts detrimentally upon the wind current between the wings.

If a medium large wind motor is used with a wing surface of about 48 square meters (1 square meter=10.764 square feet), 8-horsepower is obtained at a wind velocity of 6 meters per second (1 meter=3.28 feet). At a velocity of 8 meters the horsepower is more than doubled. A wind with a velocity of 8 meters per second is no rarity. The weather reports classify it as No. 3, while the highest wind velocity is No. 12. Since 1903 there has been in existence the Danish Electricity Company, from whose zealous agitation 30 larger and smaller wind-power electrical equipments are in operation throughout Denmark.

CANADA.

NATURAL GAS DEVELOPMENT IN QUEBEC PROVINCE.

Consul James H. Worman, reporting from Three Rivers, gives an account of some of the advantages that are being derived in Canada from the development of the natural gas resources:

The borings for natural gas in this district of Quebec Province have proved its presence in many sections. Enough wells have been opened to supply a number of towns for lighting, heating, and manufacturing purposes. In Three Rivers, a cotton factory now building, to employ several thousand operatives, will be supplied with power, heat, and light by local gas wells; many other factories are already so supplied; and churches and homes are thus heated and lighted. There is great probability of the extension of this system to Montreal if the supply shall prove as abundant as anticipated, the American concessionaires believing that the St. Maurice Valley will develop the largest gas fields in Canada, comparable in magnitude to the biggest fields in the United States.

Gas for manufacturing purposes costs at Three Rivers 20 cents a thousand feet. Allowing for the cost of piping from the source at St. Barnabe to Montreal, it would be possible to undersell gas and electricity for light and power. American gas-stove manufacturers, informed by this consulate of the opportunity, opened branches here for the sale of their goods with much success. One concern reports sales to the amount of $2,000.

BRAZIL.

COST OF GAS AND ELECTRICITY IN RIO DE JANEIRO.

Deputy Consul-General Joseph J. Slechta writes that the completion of the large power plant which is being constructed some 40 miles from the city of Rio de Janeiro will greatly facilitate the development and extension of the electric tramway system of the Brazilian capital, and it is expected that it will also bring about an immediate reduction in the price of electric lighting, both public and private. The present cost would be regarded as high in the United States. The charge for gas is about 8.45 cents per cubic meter. Electricity for ordinary private consumption costs for lighting purposes a little more than 21 cents per kilowatt hour, and for power purposes the small consumer pays as high as 11½ cents per kilowatt hour, the charge diminishing to a minimum of perhaps 5 cents per hour. The city pays about two-thirds of a cent per lamp per hour for its gas illumination and approximately 15 cents per hour for its electric arc lamps. Inasmuch as the gas supply of the city is controlled by the same corporation which furnishes electricity, and is soon to have the advantage of an economically operated power plant, there is considerable interest as to how favorable the new price schedules will be.

GERMANY.

GENERATION OF ELECTRIC ENERGY FROM OCEAN TIDES.

Consul-General Richard Guenther, of Frankfort, says it is reported that a Hamburg joint stock company has purchased a large tract of land along the mouth of the Elbe at Cuxhaven where power works are to be erected. The action of the ebb and flow of the tide is to be employed in generating electric energy to be used in factories about to be established. The works will also furnish electric power to the town of Cuxhaven and other towns in the vicinity. The daily capacity of the plant will reach 14,000 horsepower. Tests are said to have established the feasibility of this method of generating electricity.

TELEGRAPHS AND TELEPHONES.

SPAIN.

LARGE SUPPLIES NEEDED FOR NEW GOVERNMENT TELEPHONE LINES.

Consul-General B. H. Ridgely, of Barcelona, advises that a royal order was published in the Spanish Official Gazette on November 12 inviting tenders from native firms for the installation of a telephone system connecting with the French wires at the frontier towns of Irun and Portbou, the details being as follows:

The line will start from Madrid and at Zaragoza branch off in two directions, one passing through Pamplona, Tolosa, and San Sebastian to Irun, and the other following the line through Lerida to Barcelona and Tarragona, and thence on through Gerona to Portbou on the French frontier, thus establishing communication between Barcelona and France. Stations will be placed at all the towns named above. The work will have to be commenced before July, 1908, and terminated within the year. The contractors will be required to link up a number of other towns lying near the main route.

Tenders are also solicited for the construction and working of telephone systems connecting Madrid with Coruna and Ferrol, with Pontevedra by way of Orense and Vigo, on to Gijon, Santander, and several other smaller towns. This will be known as the Northwestern System. Another, the Southeastern System, will connect Madrid with Cartagena, Albacete, Alicante, and Murcia, Almeria, Lorca, Linares, Jaen, Granada, Baza, and Motril. Another system, to be known as the Southern Telephone System, will link up Madrid with Cadiz, passing through Ciudad Real, Almaden, Cordova, Seville, and Jerez; with Malaga, by way of Bobadilla, and with Huelva, Caceres, Badajoz, and Zafra.

Inasmuch as only native firms are invited to compete for these contracts their interest for American exporters lies in the fact that large orders will naturally be given by the contractors for wire, posts, insulators, and other material as soon as the contracts are finally signed, which it is expected will be in January next. American firms may or may not think it worth while to send representatives here to solicit orders. At present, the telephone companies of Spain buy their wires principally in Germany and their apparatus in Paris and Stockholm. It would naturally be difficult to persuade the companies to change the system now in use. On the other hand, some of our long-distance apparatus might be profitably introduced here.

HONDURAS.

WIRELESS TELEGRAPHY BEING ESTABLISHED IN CENTRAL AMERICA.

Consul Drew Linard, of Ceiba, reports that the rumor that a series of wireless stations is to be erected at several ports on the Caribbean coast has been confirmed, and adds:

The United Fruit Company has negotiated with the De Forrest Wireless Telegraph Company for the establishment of stations at Belize, Puerto Barrios, Puerto Cortez, and Ceiba, probably extending the system as far south as Port Limon, Costa Rica. It is assured that wireless communication between these points and the United States will be in operation by the first week in February.

The United Fruit Company will serve the public, but subject to censure of all messages, retaining the privilege of refusing for transmission such messages as may appear prejudicial to their business interests. This exception to public service is due to the constant competition among the several steamship lines operating in the fruit trade between the United States and Central American ports.

The business men of Ceiba are much elated, and welcome the advent of the wireless as a factor of inestimable value to them in their commercial relations with the United States.

CUBA.

COMBINATION OF TELEGRAPH AND POSTAL SERVICES.

A. Campbell Turner, chargé d'affaires of the American legation at Habana, forwards copies of three decrees of the provisional governor of Cuba establishing state telegraph offices, to be connected with the post-offices in the following places in Pinar del Rio province: Orozco, Quiebra Hacha, and Cabanas. In these offices the postmaster is to be required to pass an examination as telegraphist and is to fill both posts. It is proposed in the future, in all the smaller towns in the interior of the island where the work of the post-office will so permit, to combine the offices of postmaster and telegraphist and to make applicants for these positions pass an examination in telegraphy before receiving their appointment.

LABOR AND WAGES.

UNITED KINGDOM.

SUMMARY OF RESULTS FROM A PARLIAMENTARY INVESTIGATION.

Consul Albert Halstead, of Birmingham, reports that a Parliamentary paper by the labor department of the board of trade on changes in rate of wages and hours of labor in the United Kingdom in 1906 refers to the first half of 1907 as well in a preliminary fashion. In this respect the report says:

During the first six months of 1907 the changes in rates of wages reported continued to show an upward movement, there being net increases in all groups of trades. Altogether 1,150,029 work people were reported to have had their wages changed, of whom 1,149,825 work people had a net increase of $524,818 per week, and 204 a net decrease of $122 per week. Thus the net effect of all the changes was an increase of $524,696 per week, compared with a net increase of $129,390 per week in the corresponding period of 1906. The most important changes in rates of wages reported during the six months were increases in the coal-mining and textile industries. The former affected work people employed in all the principal coal-mining districts in Great Britain. In the textile group advances took place in the wages of 145,000 card and blowing-room operatives, spinners, doublers, reelers, winders, warpers, etc., employed in cotton manufacture in Lancashire, Cheshire, West Riding of Yorkshire, and Derbyshire; of 41,700 jute operatives, preparers, etc., in the north of Ireland. The majority of the other work people affected were in the metal and engineering trades. Work people in Government departments, the police, agricultural laborers, seamen, and railway servants are not included in the foregoing figures.

The changes reported during the first half of 1907 show that 6,106 work people have had a reduction in hours amounting in the aggregate to 16,284 hours per week, while 466 work people have had their aggregate working time increased by 1,805 hours per week.

In 1906 the net result of all changes in wages reported to the labor department was an advance of $281,770 a week, or $6,905,563 for the year. This compares with decreases of $554,781 and $4,464,777 for the years 1905 and 1904, respectively.

GERMANY.

TRADE INSTITUTE TO BE FOUNDED FOR BENEFIT OF WORKING CLASSES.

Consul-General Richard Guenther reports that a "Trade Hygienic Institute" is to be established in Frankfort, where all matters appertaining to the health and protection of German factory operatives and the working classes in general are to be studied and taught. He continues:

This institution will be the first of its kind and will have a highly important mission and a great field in which to work. Frankfort has been chosen on account of its being in close proximity to some of the great chemical factories, technical high schools and universities, and the many economic and social-scientific associations abounding in this city and vicinity. The "Institute for Communal Advancement" in Frankfort, aided by contributions from prominent manufacturers, has raised 100,000 marks ($23,800) as an endowment for this "Trade Hygienic Institute."

All the data concerning experiments and experience of physicians and others employed or interested in the care for the working classes, also all reports emanating from official trade inspections, of labor associations, etc., is to be collected by this new institute, where they will be examined by experts and put to good use. Extensive laboratories fitted up with the best of modern appliances will be erected. This enterprise has its source in the belief held by its organization that a central point for this kind of science will greatly benefit the chemical and other industries, and especially the working classes connected therewith.

EXPOSITIONS.

INTERNATIONAL DISPLAYS.

FRANCE.

ANNUAL EXHIBITION SHOWS CHANGING TENDENCIES IN MOTOR TRADE.

The tenth International Exposition of Automobiles, Cycles, and Accessories, organized by the Automobile Club of France and conducted under the patronage of the Minister of Commerce and Industry, was opened at the Grand Palace in Paris on November 12 and closed on December 1. Consul-General Frank H. Mason furnishes the following description:

In respect to size, the number and variety of exhibits, the brilliance and splendor of exterior and interior illumination and decoration, by common consent it surpassed all previous exhibitions of its kind in this or any other country.

Although international in its scope it was essentially a French display, and embodied all that France has accomplished in the improvement of motor-vehicles and their multiform accessories since 1896, at which time the automobile manufacture had become established as a leading industry of the country. Great Britain, Germany, Belgium, Spain, and especially Italy have been represented by exhibits of their choicest creations. But naturally the center of the stage was held this time, as heretofore, by the 10 or 12 leading French makers who made the exhibition of 1896 and have maintained their supremacy at each subsequent exposition. Except for machine tools and certain accessories, the United States was practically unrepresented at this exposition. American-made lathes, gear-cutters, cylinder-boring, and other machines for special details of automobile work were still to be seen in the machinery section, but even there the old supremacy has been broken, and French, German, Belgian, and British machinists now supply a large proportion of the marvelously perfected machine tools which formerly came almost exclusively from the States.

LEADING POINTS DEVELOPED.

The salient elements of the exposition which will most naturally interest Americans can be concisely described as follows:

There was exhibited no epoch-making novelty or invention in automobile construction. The principal changes noticeable were the increased employment of the cardan drive and the elimination of the chain and sprocket, except on the heaviest cars. Where the chain is retained there is an effort to protect it with a gear case, but this involves difficulties in case of breakage.

Low tension magnetos have been very generally replaced by those of high tension on account of their great simplicity and fewer parts.

The use of air brakes is rapidly increasing and they appear to have been found entirely satisfactory.

There were several more or less promising improvements in clutches and lubricating devices, and one practically new type of car known as the "auto-electric," in which a dynamo, driven by a four-cylindered gasoline engine, generates current which propels the vehicle by means of motors attached to the rear wheels.

The really dominant note of the exposition, the feature which most sharply distinguished it from those of other years, was the prominence which it gave to the small car, the low-powered, well-made, and medium-priced vehicle adapted to the man of moderate means who can own only one automobile at a time and wants something that he can use throughout the year in town or country, and which shall not be extravagant either in first cost or maintenance.

It will be remembered that the cold, wet, lagging spring of 1907 precipitated a condition in the European automobile market which was already impending and has already had certain important results. Most of the leading makers found themselves at the close of the spring season with unsold stocks of high-powered, costly machines that no one appeared to want. The needs of the wealthier class of enthusiasts—men who were accustomed to buy a new car each year—seemed to have been fully supplied, and the one active demand was for a smaller and much less expensive type of vehicle, suited to the needs of the average citizen.

BUILDERS' PROMPT RESPONSE—ANOTHER OUTLET.

The leading French makers recognized promptly the changing conditions of the market, and the most interesting feature of the recent exhibition has been the results of the combined efforts which they have put forth to meet it.

At each of their stands there was exhibited one or more cars and chassis of from 12 to 20 horsepower, with plain though ingenious and convenient bodies, and adapted to city or country work in all seasons. The specimens exhibited were made of the same materials and with the same high standard of workmanship that have been expended on the larger and more costly types. They are offered by the high-class makers at prices ranging from 11,000 to 15,000 francs, or $2,123 to $2,895. Builders of the second grade, firms who have not the advantage of a long established name, offer cars of similar dimensions and character for 10,000, 9,000, and even 8,000 francs, or $1,930, $1,737, and $1,544, respectively.

The annex, which contained the display of historical motor vehicles, and the latest achievements in the line of automobile cabs, drays, omnibuses, delivery wagons, machinery and materials, was at this exhibition of unprecedented extent and interest, and revealed another important outlet for the energies which have heretofore been expended in the production of touring, racing, and general utility vehicles.

The attendance was large throughout the whole twenty days of the exposition, but included comparatively few Americans, probably less than a third of the number who were here for the exposition of 1906. The prevailing opinion among exhibitors is that the exposition of 1907 has constituted a climax and it is doubtful whether another of the same character will be attempted next year.

GERMANY.

MODERN CLERICAL AND BUSINESS AIDS DISPLAYED AT BERLIN.

Deputy Consul-General John W. Dye describes the first German Exposition of Office Requirements, which was held at Berlin in the great exhibition hall near the Zoological Garden from October 5 to 20, 1907:

Berlin thus has followed the example set in several progressive American and British cities. As an artistic and complete exhibit of German appliances it was a great success, though as a money-making enterprise it was rather disappointing, as few people cared to pay a mark (23.8 cents) to see even a fine exhibition of articles which had no personal interest to them. However, hundreds that were interested did attend, and the dividends will come to the exhibitors later.

From an American standpoint the most striking characteristic of the exposition was the absence of American-made goods and the presence of American ideas and designs. The only American companies occupying booths were the Smith Premier Company, the Elliot-Fisher Company, and Henry Goldman & Co. The first named had its usual exhibit of typewriter machines, including the new circular machine, and the second-named firm, which has lately established a general agency for Germany, had on exhibition its combinations of book typewriters and calculating machines. The third firm in question had a booth where was shown the "Arithstyle arithmachine," a small and light computing machine. This company also exhibited the Bates numbering machine, the Perry time stamp, and Goldman's duplex check system.

In one branch at least it is generally conceded that the Germans still lead the world; that is, in the production of computing machines. Nearly a dozen concerns exhibited their latest models, most of which perform the processes of multiplication and division. Another interesting line in which Germany is well advanced was that of manifolding and copying devices.

SOME NOVELTIES DISPLAYED.

Loose-leaf ledgers and card-index systems closely resembling the American styles were shown by German manufacturers. These are still novelties in Germany and only the most progressive business houses have put them into use. Office furniture in considerable quantity was also exhibited, and although many pieces were built in the old cumbersome, substantial, continental style, most of it was patterned after the best American designs.

In the typewriter branch America is still conceded the leader. The German manufacturers make many cheaper machines, varying greatly in quality and design, many of which were to be seen at the exposition, but none of them seem to quite equal the standard American makes. American machines, with the exception of the ones mentioned, were absent, though a few single machines were in use in some of the exhibits.

A novelty which created considerable interest was a self-opening door. As one steps on the door mat the two wings of the door swing open in such a way that one may enter from either side without hindrance.

Another exhibit of interest was that made by the publishers of Esperanto literature. American business men do not fully appreciate the value of this universal auxiliary language for foreign business purposes, as most of their customers are still English-speaking peoples. Thousands of Europeans are using Esperanto, and, in the business world at least, it is a tried and tested success. The entire grammar can be printed on a postal card, and a complete dictionary of root words will slip into a vest pocket, still it is a language rich in words and expressions useful in everyday life. With a printed key in one's own language any letter can be translated, even by a novice. This exhibit included grammars, dictionaries, books, and periodicals, all printed in Esperanto.

Should the Berlin Exposition of Office Requirements become an annual affair, American manufacturers, who are the originators of and the leaders in the production of high-class office appliances, may find it profitable to take a larger part.

UNITED KINGDOM.

PROPOSED DISPLAY OF MEXICAN PRODUCTIONS AT LONDON.

Consul-General Robert J. Wynne, of London, advises that, following the custom of certain European nations in exhibiting for periods at London on a grand scale their various commercial and industrial products, for the extension of trade with Great Britain, announcement is made—on Mexican authority—of a Mexican National Exhibition at the Crystal Palace, in London, from May to October, 1908, the plans being as follows:

The exhibition will be in two divisions, departmental and industrial. In the first will be grouped art, army, navy, transportation, education, forestry, agriculture and fisheries, mineralogy and metals, chemicals, and miscellaneous. In the second the commercial and industrial divisions will be arranged in two sections, one representing manufactures and the other the numerous interesting home industries.

Considerable space will be devoted to showing the manufacture of Mexican goods, and various apparatus and appliances peculiar to Mexico will be on view. The weaving of straw, wool, and other fabrics, together with wood carving, pottery, etc., will also occupy a prominent place in this division, while there will be a unique collection of the small crafts and employments, which are so different from artistic productions of the same kind in European countries.

Extensive space will be allotted to agricultural products, including the various kinds of food, meat, etc., which Mexico can supply to Great Britain, and peasant industries will be represented by native workers. The shipping and engineering trades will also be represented. Working exhibits of machinery will bring before the people of Great Britain the progress made by Mexico in the mechanical arts.

In addition to the musical attractions at the Crystal Palace, Mexican national instrumental and choral music will be rendered by Mexican performers, while in the concert pavilion there will be frequent bioscopic entertainments showing Mexican life and scenery. The Government has been asked to send one of Mexico's military bands to London for the exhibition.

Sufficient patronage to the Mexican exhibition is already assured in the prominence of the Englishmen whose well-known names are used by permission as a "British honorary advisory committee."

RUSSIA.

AMERICAN FURNITURE EXHIBITS INVITED.

In transmitting the general rules and regulations of the International Industrial Exposition of Decorative Arts and Furniture, to be held in St. Petersburg in August, 1908, Vice-Consul-General John Mueller writes:

Inasmuch as Germany, Austria, and France have secured large floor spaces for their exhibits, and as it is very desirable to have American goods, especially furniture, including furniture for schools and railway cars, placed at this exhibition, this matter should be given wide publicity, as an invitation to American business firms to participate therein. There will be no duty on goods entering through the Russian customs for this exhibition, and it is hoped that the Volunteer Fleet, running a direct steamship line between New York and Libau, will give special rates and that the Government will also reduce the railway rates between Libau and St. Petersburg on such goods. [Copies of the general rules and regulations of the exposition are on file in the Bureau of Manufactures.]

BRAZIL.

GREAT INTEREST IN THE RIO DE JANEIRO EXHIBITION.

In continuation of previous consular reports, relative to the Brazilian National Exposition to be held in Rio de Janeiro, from June 15 to September 7, 1908, Deputy Consul-General Joseph J. Slechta writes:

Indications are that there will be a very large gathering of visitors and representatives from all portions of the great Republic here next June. Aside from the opportunities in connection with the exposition, circumstances will be such that every manufacturer, in any line, who is at all concerned about winning a share of Brazilian trade, can not do better than conduct an active campaign during the months of the exposition. An investment in sending a good special representative for that occasion will bring much greater results than many times the sum expended in postage or correspondence based on either false ideas of the situation or on no ideas at all.

NORWAY.

FISHERY EXHIBIT AT TRONDHJEM.

In transmitting an abstract of the rules for the Scandinavian Fishery Exhibit, to be held in Trondhjem from July 1 to August 31, 1908, which is on file in the Bureau of Manufactures, Consul Felix S. S. Johnson, of Bergen, writes:

A part of the exposition buildings will be reserved for motor boats and engines, and it is to be hoped that American manufacturers will have a better exhibit at Trondhjem than they had at Bergen. From the general rules the following is quoted:

> Application for participation, which should be addressed to Oplysningskontoret (office of information), Trondhjem, should be sent in duplicate on or before February 1, 1908. Exhibition articles will be received from April 15 to June 1, 1908. Reduction in freight rates for exhibition articles has been granted by the Norwegian railroads and by several steamship companies. Goods from abroad intended for exhibition and to be returned to country of origin are to be considered as transit goods. Vessels and boats intended for exhibition will be exempt from harbor and wharf charges.

HUNGARY.

AUTOMOBILE AND AGRICULTURAL MACHINERY EXHIBIT AT BUDAPEST.

Consul-General Frank Dyer Chester calls attention to the Fourth International Automobile Exposition to be held in Budapest, Hungary, in the month of May, 1908, as of especial interest to the American automobile and agricultural machinery exporters. The president of the proposed exposition particularly requests that American manufacturers take part and exhibit any automobile agricultural machinery that they might be able to supply to the progressive farmers in Hungary. He also says that Americans will not find domestic rivals in the Hungarian market, that the Roumanian and Servian importers buy much machinery of this class in the Hungarian market, and that Americans can easily place their machines in Budapest owing to the transportation advantages offered by the New York-Fiume service of the Cunard Line. Unsold machines displayed at the exposition can be taken back without the payment of duty in Hungary.

AUSTRIA.

EFFORTS TO PROMOTE EXPORT TRADE BY FLOATING EXPOSITION.

Consul-General Richard Guenther, of Frankfort, states that the announced departure of the steamship Argentina from Trieste marks a new step in Austria's efforts to gain foreign markets. This vessel is fitted out as a floating industrial exposition, which is to visit foreign seaports. Thirty firms in Trieste and about 100 manufacturing firms from other parts of the Austrian Empire are represented by their products in this floating fair, which has been organized by the Austrian Commercial Museum of Vienna in conjunction with the Commercial Museum of Trieste. These institutions are associations comprising the leading manufacturing and mercantile firms of Austria-Hungary.

MISCELLANEOUS.

TARIFF CHANGES.

CANADA.

FRENCH COMMERCIAL TREATY—MUTUAL TARIFF CONCESSIONS.

Consul-General John G. Foster, writing from Ottawa, transmits a copy of the convention respecting the commercial relations between Canada and France, which was made public November 28, 1907, immediately upon the opening of the Dominion Parliament, and is to become operative as soon as approved by the French Chambers and the Parliament of Canada. The consul-general says:

It is significant of the development of the Dominion as a nation that this convention is practically the result of negotiations conducted by Canadian ministers.

Schedule A of the treaty provides that certain Canadian products shall enjoy the benefit of the French minimum tariff when imported into France, Algeria, the French colonies and possessions, and the territories of the Protectorate of Indo-China, and of the lowest rates of customs duty which are applicable to like products of other foreign origin. It includes the following products:

Horses, live cattle and poultry, fresh and salt meat, preserves, tar, extracts of meat, animal fat, eggs, milk, cheese, butter, honey, fish and fish products, cereals, potatoes, fruits, seeds, preserved fruits, timber, charcoal, straw, vegetables, fodder, wood pulp, spirits, mineral waters, emery, grindstones, cement, coal, iron and steel products, copper and manufactures thereof, lead and manufactures thereof, nickel and manufactures thereof, antimony, tanning extracts, chemical products, compound medicines, starch, isinglass, glue, incandescent electric lamps, yarns, yarns of hemp and similar fibers, paper, cardboard, skins, hides, leather, boots, shoes, gloves, transmission belts, trunks, peltries, locomotives, agricultural machinery (motors not included), sewing machines, dynamos, typesetting machines, machinery and tools, arc lamps, wire gauze, railway chairs, storage batteries, bentwood and other furniture and wooden wares of different kinds, doors, windows, and similar builders' materials, pianos, organs, carriages, tramways, ships, boats, manufactures of India rubber and gutta-percha, articles of asbestos, mica, typewriters, etc.

CANADA'S CONCESSIONS.

Schedule B provides that certain products originating in France, Algeria, the French colonies and possessions, and the territories of the Protectorate of Indo-China shall enjoy on their importation into Canada the benefit of the Canadian intermediate tariff and of the lowest rates of customs duty applicable to like products of other foreign origin. This schedule includes the following products:

Canned meats, cheese, macaroni, cocoa or chocolate preparations, seeds, fruit trees, grapevines, tomatoes, pickles, dates, figs, and other dried fruits, nuts of all kinds, preserved fish, confectionery, spirits, sirups, perfumes, photographs and other forms of artistic reproduction, medical preparations and drugs, acids, soaps, pomades, glue, mucilage, celluloid, antiseptical surgical dressings, inks, essential oils, tableware, cement, glass, manufactured articles in metals, watches, clocks, and parts of the same, needles, pins, buckles and clasps, cutlery, locomotives, electric-light carbons, window and plate glass, articles of glass, motor vehicles of all kinds, telephone and telegraph instruments, furniture and other manufactures of wood, lace and embroideries, women's and children's dress goods, wearing apparel and ready-made clothing and similar articles, pianofortes, organs (and musical instruments of all kinds), boots and shoes, trunks, valises, bags, baskets, musical-instrument cases, skins, ornaments, fans, dolls, toys, gloves, feathers, jewelry, precious stones and imitations thereof, lead pencils, pens and penholders, tobacco pipes, magic lanterns, etc.

Schedule C provides a special Canadian tariff for certain French products when imported into Canada. These products are canned vegetables, anchovies, sardines, sprats and other fish, wines, champagnes, periodicals and pamphlets, works of fiction or literature of similar character in the French language, medical, chemical, and pharmaceutical preparations, olive oil, embroideries, velvets, silk fabrics, ribbons, and manufactures of silk.

DIRECT SHIPMENTS—MOST-FAVORED-NATION CLAUSES.

The special tariff applicable to these products provided by Schedule C is in most instances the same as the British preferential, and in all cases is lower than the intermediate tariff. To obtain the benefit of the different tariff reductions, goods must enter either country direct from the other without transshipment.

Most-favored-nation clauses are incorporated in the convention, and provision is made that the goods of either country shall not be made subject to any greater internal charges—such as octroi or other forms of tax—in the territory of the other country than are laid upon similar home products. Customs duties collected upon samples are to be refunded after reexportation of such samples.

Owing to "most-favored-nation" clauses in the British treaties the tariff reductions provided by the French treaty just negotiated will be extended to the following countries: Argentina, Austria-Hungary, Bolivia, Colombia, Korea, Denmark, Japan, Liberia, Morocco, Muskat, Persia, Russia, Sweden, Salvador, Spain, Tonga, and Venezuela.

The following tables give the trade of Canada with France during the three years ended June 30, 1905, 1906, and 1907:

	1905.	1906.	1907.
Imports	$7,012,936	$7,388,605	$8,647,514
Exports	1,445,563	1,800,072	1,991,225

CHINA.

MANCHURIAN CUSTOMS DUTIES.

Consul Wilbur T. Gracey, writing from Tsingtau, China, November 21, 1907, furnishes the following particulars published in a local newspaper in China regarding the payment of duties in Manchuria:

Russia and China have settled the question regarding the duties leviable on goods entering Manchuria by the Siberian Railway. China accepts the Russian contention that the land-borne rate stipulated by the agreement of 1896—namely, two-thirds of the maritime tariff—covers goods within railway limits. These limits comprise an area of three li (one mile) radius at the larger stations, and an area of ten li (three and one-third miles) radius at Harbin, where the railway property is very extensive. Beyond these limits an additional third is leviable. Russia, on her part, recognizes China's right to levy transit dues of half the ordinary duty on such goods entering China proper from Manchuria. The frontier customs stations will probably begin working shortly. Sir Robert Hart, the inspector-general of the Imperial Maritime Customs service in China and head of the customs department, has proposed that the railway should act as agents for consignees paying duties collectively.

COLOMBIA.

FREE IMPORTATION OF CORN AND RICE.

Consul Isaac A. Manning, writing from Cartagena December 9, 1907, reports that the Colombian Government has decreed the free importation of rice and Indian corn until May 1, 1908, owing to the shortage of these crops in the country, resultant on the continued destruction of the rice and corn fields by the locust.

COSTA RICA.

NONENFORCEMENT OF THE BANANA TAX.

Mr. William Lawrence Merry, American minister to Costa Rica, writes from San Jose in regard to the export duty of 1 cent gold on each bunch of bananas, which was authorized by a recent law enacted in that Republic. The large growing and shipping interest involved declines acceptance, mainly owing to certain changes which may affect the validity of its concessions. The minister adds that "the law having been enacted subject to such acceptance within sixty days, the relations of the parties in interest remain as before, and there is at present no indication that Congress will be convened to reconsider the question."

GREECE.

CUSTOMS TREATMENT OF TRAVELER'S SAMPLES.

A circular has been issued to the Greek customs authorities on the subject of formalities connected with the admission into Greece of commercial traveler's samples, and samples introduced by post. It provides:

> Samples of no commercial value are exempt from import duty by the customs tariff law. Commercial traveler's samples which have value, however, are delivered from the custom-house at which they are imported only after marks or seals have been affixed thereto by the customs for purposes of identification, and satisfactory security has been given for payment of import duty in the event of their not being exported from the Kingdom within a period of one year. Immediate payment of import duty is exacted on samples, except those of no commercial value, sent into Greece by post, but samples of tissues in larger pieces than is customary will be delivered free of duty after being rendered useless by cutting.

SPAIN.

REDUCED INSPECTION CHARGES ON VINE IMPORTS.

Chargé d'Affaires William H. Buckler, of the American Legation at Madrid, transmits a copy of the Spanish order of November 20, 1907, reducing the certificate charges on importations of American vines, with a view to encouraging their introduction into those provinces of Spain which are officially declared to be "phylloxerated." He also writes:

Under Section 12 of the present Spanish tariff all importations of vines other than American are absolutely forbidden, but American vines may be imported free of duty into the phylloxerated provinces. Such importations, however, have hitherto been hampered by the fact that, under the royal order of April 28, 1903, a fee of 15 pesetas (about $2.75) has been payable by importers on each consignment, however small, to the inspectors whose duty it is to verify the genuineness of the vines imported. But that order is now repealed and a great reduction is made in the fees of these inspectors.

It is therefore apparent that the new order is tantamount to a reduction in the duty on American vines, and it will be seen that under it, importations of from 1 to 250 kilos (kilo 2.2 pounds) may now be made free of all duties and charges. It is stated that the so-called "American" vine used in Spain is usually a hybrid plant, grown in France and imported thence; but it seems that this new regulation might nevertheless interest the American vineyardists and exporting nurserymen. The inspection charges provided for by the royal order of November 20 are as follows (peseta 19.3 cents):

On shipments weighing—	Pesetas.
Up to 250 kilos	Free.
From 251 to 1,000 kilos	2.50
From 1,001 to 2,500 kilos	5.00
From 2,501 to 5,000 kilos	7.50
From 5,001 to 7,500 kilos	10.00
From 7,501 to 10,000 kilos	12.50
10,001 kilos and upwards	15.00

TURKEY.

DUTY ON WHEAT AND FLOUR REDUCED.

The American Ambassador at Constantinople, under rate of November 8, reports that owing to the scarcity of food supplies the Turkish Government has entirely suspended the duty on wheat and reduced that on flour from 11 to 6 per cent.

EDUCATIONAL.

TURKEY.

ALL SCHOOLS ARE FREE AND SUPPORTED BY THE GOVERNMENT.

Consul Ernest L. Harris, of Smyrna, furnishes the following information relative to educational conditions in the Ottoman Empire:

The ministry of public instruction is divided into four departments, each division being respectively charged with the supervision of the schools generally, viz: (1) Primary schools, (2) higher primary schools, (3) preparatory schools, (4) schools of the non-Mussulman and foreign communities.

The grand council of the department of public instruction, which controls the revenues appropriated for public instruction, also supervises the following institutions: The law school, fine arts college, college for civil servants, commercial colleges, meteorological observatory, Imperial museum, censor's department, and the deaf and dumb institution.

All the Government schools are supported by the Government, the following taxes being appropriated for the purpose: One-half of 1 per cent of the tithes on agricultural produce; 5 per cent of the taxes collected on real estate; one-third of the poor rate. At all of these schools instruction is free, whether for Ottoman or foreign subjects. The schools of the non-Mussulman and foreign communities are supported by their respective communities.

In each province there is a council supervising the schools therein, which reports to the grand rector of the ministry of public instruction at Constantinople. This council is under the presidency of two vice-rectors, one a Mussulman, the other a non-Mussulman, and the board is composed of an inspector-general, an inspector, and a secretary. In every village there is, by law, a primary school at which attendance is obligatory for all Ottoman subjects, unless they be non-Mussulmans, who attend the schools established by their respective communities. Boys have to go to school from 6 to 11 years of age, and girls from 7 to 11.

The primary course, which covers four years, includes reading, writing, history, the Turkish language, elements of geography, and religious instruction, according to the creed of the pupil. In towns of over 500 inhabitants there is a higher primary school. The course here also lasts for four years, and comprises Turkish grammar, letter writing, Persian and Arabic grammar, arithmetic, bookkeeping, drawing, geometry, history, and one of the languages current in that district. In all towns having over 1,000 houses there are preparatory colleges. Here the course lasts two years, and the following subjects are studied: Turkish literature, French, rhetoric, political economy, geography, general history, natural history, algebra, arithmetic, geometry, surveying, physics, chemistry, and drawing.

CANADA.

A PROVINCIAL SCHOOL OF COMMERCE AT MONTREAL.

Consul James H. Worman, writing from Three Rivers, states that the new school of commerce being established at Montreal will be conducted in French under the provincial government of Quebec, and as its superintendent the late principal of the Commercial University at Louvain, Belgium, has been chosen. The Chambre de Commerce, a French-Belgian and French-Canadian organization at Montreal, has been largely active in behalf of this new enterprise, which, it is expected, will raise the standard of education in the preparation of those aiming to enter upon a business career.

NOBEL PEACE PRIZE.

RULES THAT GOVERN PARTICIPATION IN PRIZE DISTRIBUTION.

The Nobel committee of the Norwegian Parliament forwards, through the Department of State to the Department of Commerce and Labor, the following announcement:

All proposals of candidates for the Nobel peace prize, which is to be distributed December, 10, 1908, must, in order to be taken into consideration, be laid before the Nobel committee of the Norwegian Parliament by a duly qualified person before the 1st of February of the same year.

Any one of the following persons is held to be duly qualified: (*a*) Members and late members of the Nobel committee of the Norwegian Parliament, as well as the advisers appointed at the Norwegian Nobel Institute; (*b*) members of Parliament and members of Government of the different States, as well as members of the Interparliamentary Union; (*c*) members of the International Arbitration Court at The Hague; (*d*) members of the Commission of the Permanent International Peace Bureau; (*e*) members and associates of the Institute of International Law; (*f*) university professors of political science and of law, of history, and of philosophy; and (*g*) persons who have received the Nobel peace prize.

The Nobel peace prize may also be accorded to institutions or associations. According to the code of statutes, the grounds upon which any proposal is made must be stated, and handed in along with such papers and other documents as may therein be referred to. According to section 3, every written work, to qualify for a prize, must have appeared in print.

For particulars, qualified persons are requested to apply to the office of the Nobel committee of the Norwegian Parliament, Drammensvei 19, Christiania, Norway.

LIQUORS IN INDIA.

THEIR USE NOT CONSIDERED NECESSARY TO HEALTH IN THE TROPICS.

Transmitting an article written by Dr. Harold H. Mann, and published in the Young Men of India, under the title "Is drink necessary for Europeans in India," Consul-General William H. Michael, of Calcutta, writes:

Europeans and Americans who come to India do not need liquors to keep well; they will be better without stimulants of any kind. After nearly two years residence here, my observations lead me to say that drinkers of spirits, wines, and malt liquors are the most susceptible to disease, especially fevers, either on the plains or in the mountains, of any class of the inhabitants. Proper regard for dress, to guard against sudden weather changes, moderation in eating, especially meats, using only filtered and boiled water, entire abstention from alcoholic, vinous, and malt liquors, and plenty of sleep, will almost invariably insure, to the average healthy person, good and uniform health, as far as fevers are concerned, and, by adding vaccination and inoculation, will go a long way toward making that person immune from contagious diseases. [The article under consideration is filed in the Bureau of Manufactures.]

BOILER PRESERVATIVE.

PECULIAR PROPERTIES OF A NEW SPANISH COMPOSITION.

Consul-General Benjamin H. Ridgely furnishes the following report on a new Spanish composition for preserving steam boilers, which has just been placed upon the market at Barcelona:

The compound appears to be an improvement on all previous inventions. It is claimed that by adding a certain quantity of this preparation to the water tanks from which the boilers are fed, all impurities in the water, and matter that might adhere to the sides of the boiler, are at once precipitated, leaving the water innocuous. Thus, not only is the life and efficiency of the boiler increased, but a great economy in fuel is derived. The composition is in the form of a colorless and odorless liquid.

APPENDIX.

NATIONAL COUNCIL OF COMMERCE.

MEETING OF DELEGATES FROM VARIOUS COMMERCIAL ORGANIZATIONS WITH THE SECRETARY OF COMMERCE AND LABOR.

With the view of promoting the foreign and domestic commerce of the United States by establishing closer relations between his Department and the commercial and industrial organizations of the country, the Secretary of Commerce and Labor on October 23, 1907, addressed the following letter to a selected number of boards of trade, chambers of commerce, and trade organizations in the leading cities of the United States:

Department of Commerce and Labor,
Office of the Secretary,
Washington, October 23, 1907.

Gentlemen: The Department of Commerce and Labor was created by the act of February 14, 1903, and Congress had chiefly in view, among other things, the fostering, promoting, and developing of foreign and domestic commerce, mining, manufacturing, etc.

Since assuming the administration of this Department I have given much thought to the question how to establish a closer relationship between the Department and the commercial bodies of the country, with the view of rendering the Department more helpful to the commercial interests. In order to profit by the experience of European governments, such as Great Britain, France, Germany, Italy, and Belgium, which have dealt with that problem for some time, I have caused to be prepared by the tariff expert of the Bureau of Manufactures a study of this subject, which is embraced in a pamphlet, three copies of which are herewith sent under separate cover.

With the view of developing the most practical plan for rendering this Department of greater service to the commercial interests of the country, and at the same time to enable the Department to enlist the cooperation of such interests, I have invited the chambers of commerce and boards of trade from some forty of the leading cities of the country to appoint committees to meet in the Department of Commerce and Labor on Thursday, December 5, at 10 o'clock a. m., to consider with me ways and means of accomplishing the objects above set forth. I would appreciate it if you will advise me whether your body will be represented at this meeting.

Respectfully,
Oscar S. Straus, *Secretary.*

BODIES REPRESENTED AND DELEGATES PRESENT.

Acceptances were received from practically all of the organizations invited, and on December 5, 1907, the delegates who had been chosen to attend the conference convened in the offices of the Secretary of Commerce and Labor. The organizations and their delegates are as follows:

Chamber of Commerce of the State of New York, New York City:
Gustav H. Schwab.
John I. Waterbury.
Silas D. Webb.

Chamber of Commerce, Atlanta:
J. W. Pope.
W. G. Cooper.
David Woodward.
L. A. Ransom.

Chamber of Commerce, Boston:
John F. Crocker.
William H. Lincoln.
Elwyn G. Preston.
George T. Coppins.
Daniel D. Morse.

New York Board of Trade and Transportation, New York City:
William McCarroll.
Nathan B. Payne.

Chamber of Commerce, Pittsburg:
D. C. Ripley.
H. J. Heinz.
Isaac W. Frank.

Chamber of Commerce, Galveston:
M. Lasker.
H. Mosle.
J. C. Kempner.
Walter Gresham.

Chamber of Commerce, Seattle:
Edgar L. Crider.

Chamber of Commerce, Milwaukee:
George H. D. Johnson.

Chamber of Commerce, Denver:
Meyer Friedman.
Jas. S. Temple.
W. F. R. Mills.
C. H. Reynolds.

Business Men's League, St. Louis:
James E. Smith.
C. P. Walbridge.
W. F. Sanders.

National Association of Manufacturers, New York City.
H. E. Miles.
D. A. Tompkins.
A. B. Farquhar.
G. A. Stephens.
F. C. Schwedtman.
Charles H. Becker.
George S. Boudinet.

Merchants' Exchange, St. Louis:
William P. Kennett.
Edward E. Scharff.
Hosea B. Sparks.
Parker H. Litchfield.

Trades League of Philadelphia:
Mahlon N. Kline.
John G. Croxton.
N. B. Kelly.

American Meat Packers' Association, New York City:
William C. Evans.
J. C. Dold.
George L. McCarthy.

National Board of Trade, Philadelphia:
Frank D. La Lanne.
Ambrose Swasey.
Henry W. Peabody.
E. R. Wood.

Chamber of Commerce, Minneapolis:
G. D. Rogers.

Chamber of Commerce, Richmond:
Malvern C. Patterson.
J. C. Freeman.
George Bryan.

Millers' National Federation, Chicago:
A. L. Goetzmann.
M. H. Davis.
John W. Burk.

American Asiatic Association, New York City:
John Foord.
C. A. Green.

Boston Merchants' Association, Boston:
John W. Weeks.
Charles C. Hoyt.
A. S. Crane.

Chamber of Commerce, San Francisco:
Senator George C. Perkins.

Chamber of Commerce, Cincinnati:
Frank B. Wiborg.
C. B. Murray.

Board of Trade, Chicago:
George F. Stone.
B. A. Eckhart.

Board of Trade, New Orleans:
C. H. Ellis.
C. P. Bartlett.
Jules C. Koenig.

Chamber of Commerce, Cleveland:
Lyman H. Treadway.
Ambrose Swasey.
Munson A. Havens.

Board of Trade, Philadelphia:
John M. Harper.
E. J. Lavino.
Charles J. Cohen.
Malcolm Lloyd.
Wm. R. Tucker.

Chamber of Commerce, Buffalo:
Geo. P. Sawyer.
Wm. A. Rogers.
Geo. Clinton.
Wm. A. Douglas.
Burt L. Jones.
Hugh Kennedy.
W. H. Gratwick.
T. S. Fassett.
H. G. Meadows.
T. H. Wickwire.
J. C. Hold.

American Warehousemen's Association, Washington and San Francisco:
Samuel M. Haslett.

Merchants' Association of New York:
S. C. Mead.

Latin-American League of St. Louis:
E. B. Felsinger.
Jos. Arbuckle.

Honolulu Chamber of Commerce:
Governor W. F. Frear.

Manufacturers' Association of Indianapolis:
Albert Hale.

American National Live Stock Association:
S. H. Cowan.

American Association Flint and Lime Glass Manufacturers:
Geo. W. Blair.

Albany Business League:
John A. Betjeman.

Commercial Club and Manufacturers and Merchants' Association of Kansas City:
Geo. H. Teffts.
J. M. Conner.
H. B. Topping.
C. D. Parks.
E. M. Clendening.
J. C. Swift.

Chicago Association of Commerce:
A. B. McCall.

Special Delegates:
Wm. R. Corwine.
Francis B. Loomis.

THURSDAY, DECEMBER 5.

ADDRESS BY THE SECRETARY OF COMMERCE AND LABOR.

The meeting was called to order at 10 o'clock a. m. by the Hon. Oscar S. Straus, who addressed the delegates as follows:

Gentlemen: I desire to express to you, and through you to your respective organizations, my thanks for your presence here to-day in response to my invitation. I have invited you here for a consultation as to how we may establish closer and more helpful relations between the Department of Commerce and Labor and the commercial and industrial bodies of the country.

The subject of establishing closer relations between this Department and the organizations representing the commerce and the industry of the country has been uppermost in my mind since I assumed charge of this branch of the Government.

In May last, Mr. Gustav H. Schwab, chairman of the Committee on Foreign Commerce of the Chamber of Commerce of the State of New York, forwarded to me a report of that committee on the subject of the extension of the foreign trade of the United States. He accompanied it by a letter urging the adoption of some system somewhat similar to those which prevail in the principal European countries for an adequate governmental service of information on foreign tariffs and foreign commerce.

In my reply to Mr. Schwab, I called attention to the advantage to the commerce of the country, both domestic and foreign, and to the Department in its efforts to promote the same, if a closer relationship were established between the Department of Commerce and Labor and the commercial and industrial organizations of the country. These organizations include among their number many men of great practical experience, leaders in our economic development, whose advice and cooperation can not fail to be of great value to the Government and the country.

In furtherance of this purpose I directed Mr. Stone, of the Bureau of Manufactures, to prepare a report upon the relations between the government departments corresponding to our Department of Commerce and Labor in the leading European countries and the commercial bodies of those nations. This report was forwarded, together with my invitation, to some forty of the leading commercial organizations in the principal cities of the country.

The purpose of this conference, as outlined in the invitation, is administrative, not legislative. This Department is not charged with matters relating either to finance or revenue, nor with administrative duties affecting the tariff or reciprocity.

The Governments of the leading European nations, notably France and Germany, have established close official relations between their departments of commerce and their commercial organizations. This was possible because the leading commercial organizations of those nations are semiofficial bodies, and are therein different from commercial bodies in this country. In England, on the other hand, where the commercial bodies are not endowed with semiofficial functions, but are organized upon very much the same basis as our own, the commercial bodies are leagued together in one National Association of Commerce, and when this great body makes representation to the Government, as it frequently does, it speaks the voice and wish of commercial and industrial England, and the Government takes notice accordingly. This situation has gradually grown up, and the British Government has been able to do a great deal to promote, expand, and facilitate foreign trade, because it is kept in intimate practical touch with the men who are carrying on England's gigantic trade with all the world. We can learn much from both the continental and the English system in developing a method of cooperation that will more readily adapt itself to conditions in our own country. The question is one that has never been studied as a whole in the United States. It is about time that a beginning should be made in this direction. It can not fail to be helpful, not only to our foreign commerce but to our domestic commerce as well.

The organic act creating this Department provides that " It shall be the duty of said Department to foster, promote, and develop the foreign and domestic commerce, the mining, manufacturing, shipping, and fishing industries, the labor interests and the transportation interests of the United States." No country has a greater number of progressive men of high ability and great experience engaged in its commerce and manufactures than our own, and there is all the more reason why the Government should avail itself of their invaluable assistance, their wise counsel, and systematic cooperation. It requires no argument to prove that the establishment of a medium of cooperation between this Department and the commercial bodies will be of the greatest practical advantage to the Department in directing its efforts into the channels of investigation that are most desired by the commercial interests. It will at the same time enable the Department to communicate promptly information regarding trade conditions in foreign countries that will prove of increasing value to American manufacturers, exporters, and importers.

The bureaus of this Department most directly in touch with the commercial interests are the Bureau of Manufactures, the Bureau of Statistics, and the Bureau of the Census. There are other bureaus which intimately touch commercial interests, such as the Coast and Geodetic Survey, the Bureau of Navigation, the Bureau of Standards, and the Bureau of Corporations. It would be of great value and assistance to the statistical bureaus to be advised from time to time what statistics, other than they now supply, will be of help commercially and in what particular the statistics can be made more useful.

WORK OF THE BUREAU OF MANUFACTURES.

The Bureau of Manufactures, besides publishing such consular reports as are of interest commercially, is empowered by Congress to send trade agents abroad to investigate special industries and markets for our products and manufactures. Congress makes an annual appropriation of $50,000 for this purpose. It has been my aim to select men for these positions who are specialists in the particular branches of industry they are directed to investigate. A good beginning has been made, and much valuable information obtained and disseminated through publication of the reports of the special agents and the distribution of samples of merchandise manufactured in foreign countries. A division in the Bureau of Manufactures has also been established, known as the Division of Foreign Tariffs, charged with the duty of collating such tariffs and making comparative studies. It is of the highest importance to the exporting interests to learn at the earliest moment not only of tariff changes in foreign countries, but also of the proposed changes affecting the exports from this country, so that such steps may be taken, either by our Government or by the interests affected, as the case may warrant and the circumstances admit. These are a few of many instances where cooperation between commercial and manufacturing interests and the Department will be of mutual advantage.

The question suggests itself, How can the desired cooperation best be obtained? That is the subject I commend to your immediate consideration. I do not wish to forestall any views you gentlemen may have on the subject, or any plan you may wish to present or develop. I will simply lay before you a brief and purely tentative outline of such a plan as I have in mind, whereby there can be established a body which shall serve as a connecting link between the Department and the commercial organizations, with the hope that you may further develop it, or devise some other plan in order to best serve the purposes for which this conference has been called.

It is important that the connecting link should be a comparatively small committee, and the plan submitted therefore proposes an advisory board which would be practically an executive committee, meeting as frequently as necessary, and thoroughly representative of a larger body consisting of representatives from commercial and industrial organizations throughout the country.

I see no reason why such a national council or advisory committee should not extend its cooperation to other Executive Departments that touch the commerce and manufactures of the country, such as the Department of State, the Treasury Department, and the Department of Agriculture. That, however, is a matter entirely for your consideration, and perhaps had better be an after consideration, following the successful working out of a practical relationship between this Department and the commercial organizations of the United States. The purely tentative outline of an organization which I have prepared, and which I submit to you to serve merely as a starting point for your deliberations, is as follows:

TENTATIVE SCHEME FOR A NATIONAL COUNCIL OF COMMERCE.

The purpose of the proposed Council of Commerce is to establish a connecting link between the Department of Commerce and Labor and the business world directly affected by the work of the Department.

Its functions should be:

1. To keep the Department informed of the needs and desires of the business world so far as they may be formulated by responsible commercial and industrial organizations. These organizations should represent manufacture, internal trade, and foreign commerce, both export and import, and possibly transportation.
2. To keep the business community informed regarding the work of the Department, its plans, methods, and results.

The practical character of the work requires that the directing personnel of such a council shall be held down to the smallest possible number or members, if it is to be a workable body. It is therefore suggested that the organization consist of two closely connected yet distinct bodies, viz:

1. A National Council of Commerce.
2. An Advisory Committee.

Each body to elect its own officers and to establish its own rules of procedure.

Under this plan the National Council of Commerce would be composed of one representative from the leading commercial and industrial organizations, representing the principal lines of commerce and manufacture in every section of the country.

THE NATIONAL COUNCIL.

The Council to meet as may be determined upon; to hear and act on the reports of the Advisory Committee; to discuss and act on measures proposed by the delegates from the various organizations represented; to formulate, for action by its constituent bodies, or by the Advisory Committee, such suggestions for the promotion of the commerce of the United States as it may agree upon.

THE ADVISORY COMMITTEE.

The Advisory Committee shall consist of a comparatively small number of members, say 9 to 15, representing the leading commercial and industrial organizations of the country, to be selected as the National Council shall provide. Its meetings shall be attended by such officers of the Department as the Secretary of Commerce and Labor may designate, these officials to have a voice in the deliberations, but no vote. It shall meet regularly—four times a year, or at such intervals as may be necessary. Its purpose, as stated above, is to act as an intermediary between the Department and the commercial and industrial interests of the country, and to that end it is to exercise the following functions:

1. To receive reports and communications from commercial and other bodies as to their needs in the promotion of commerce.
2. To receive information from the Department of interest to the business world, which can not be directly disseminated through the publications of the Departmental Bureaus.
3. To consider with the Department officials and act upon the topics suggested by the reports mentioned under 1 and 2.
4. To furnish the Secretary of Commerce and Labor with authentic information as to the needs and conditions of different industries whenever commercial treaties are under consideration.
5. To suggest special investigations abroad by the agents of the Department.
6. To act as an intermediary between the Department and the commercial and trade bodies in arranging for the representation of American products at international expositions.

7. To confer with other Departments of the Government with a view to promoting the trade interests of the country.

8. To confer with the Secretary of Commerce and Labor regarding legislation which shall have been approved by the National Council and is necessary to promote foreign and domestic commerce or to adequately equip the Department for such work.

ADDRESS BY THE SECRETARY OF STATE.

The Secretary of Commerce and Labor then introduced the Hon. Elihu Root, Secretary of State, who spoke as follows:

Mr. SECRETARY, GENTLEMEN: I was very glad to avail myself of the kind invitation of Secretary Straus to come here and say a very few words, in order that I might express hearty approval on the part of the State Department of the movement which the Department of Commerce and Labor is now proposing to inaugurate. I am glad also to have the opportunity to impress upon your minds the fact that the Department of Commerce and Labor, which is charged with promoting that great phase of our national activity, and the Department of State, which represents that activity wherever it touches a foreign nation, are endeavoring to bring about team play in the interest of our country. It is quite clear to me that, while we have had for a long time a great deal of most excellent and devoted work along many lines in many bureaus and different Departments affecting the commercial growth and extension of our country, the efficiency of that good and faithful work has been much less than it should have been, because it has been unrelated. Men working each by himself, doing the best he can, but not having any relation to the work of other equally good men, are doing in many ways that which might strengthen and promote the work of the others.

I think we have come to the point where we can apply to the work of the different Departments of government, of different bureaus, of different experts and governmental servants, and of the great number of local commercial organizations throughout the country, those principles of organization which are transforming the business of the world to-day, and I look upon this movement which Secretary Straus has inaugurated here, and in which you have been so public-spirited as to come here and to give your time and efforts—I look upon this movement as being a most appropriate step toward bringing about that organization. The State Department becomes interested at the point where the efforts of our people to organize and increase our foreign commerce touch foreign conditions, and it is plain to me that there are many things which should be done, and which can be done only through organization and through the power of associated effort. These are things which will not be done by separate individuals, each following along the line of his own business. In many parts of the world where there are great markets waiting for American enterprise we are much handicapped because our people are as yet children in the competition with the trained foreign merchants of other countries. I have just been reading with great interest a letter from Mr. Andrew D. White to the President which the President sent to me the other day, accompanied by a memorandum and a draft of a bill proposing to apply the same methods of instruction in commerce, at the instance of the National Government, which have been applied to instruction in agriculture; that is, to extend to instruction in commerce the principles and the methods of the Morrill bill of 1862, under which the proceeds of public lands have to so large an extent been applied to instruction in agriculture. I was much impressed by the wise recognition of conditions, and I asked the President to send Mr. White's letter to Secretary Straus, which has already been done. Our people very much need education, and that requires organization. We need very much in many foreign countries American banks. That can not be done by the hardware manufacturer, or by the cotton manufacturer, or by any individual or single concern that is seeking to extend its market. It has got to be done by organization, and recognition of the needs of all the American businesses. We need an extension and a revival of our merchant marine, and that can not be done by a single individual.

This education which we should have should consist of training up a lot of young men, who will extend and push American trade abroad. This education must have a great deal of scope. It must involve training in the languages. It is of no use to send a man who talks nothing but North American to countries where they do not talk North American. It needs training in the particular methods, the customs, the purposes, the sympathies, or prejudices of the people among whom our agents are going, and it needs a wide knowledge of the production and the markets, and the possibilities in the United States. We are trying to do the best we can in the State Department in regard to the Consular Service, which is engaged in trying to pry open the doors for you to send your commerce through; and one thing which an organization that takes in the great chambers of commerce can do is to stand behind the Government officers who are trying to make the Government machinery effective. They should stand behind the Government officers, and support them when they make an advance in the right direction, and prevent anybody from pushing back in the wrong direction.

REORGANIZATION AND IMPROVEMENT OF THE CONSULAR SERVICE.

A few years ago the Consular Service was used very largely for the purpose of providing for respectable indigent gentlemen who failed here, and whose friends wanted to take care of them, and find comfortable shelves in quiet, pleasant foreign cities, or to take care of uncomfortable politicians who were making trouble about the race for Congress and who had to be gotten rid of in some convenient way. Those gentlemen went to their posts without having any idea they had any duty to perform, and they generally worked out that idea with fidelity. Of course, there were many very excellent men who were excellent consuls, but there were more of the other kind. We have now instituted regulations governing this. In the first place, Congress has graded the Consular Service, so that original appointments are made only to the lower grades, only $2,000 and $2,500 positions, and all the higher places are filled by promotion from the lower grades on the basis of merit, so that by putting young men in the lower places, when it comes to filling places of great importance and consequence, like the consulate-general in Paris, for example, we don't depend upon what someone's friends say about him, but we have the actual record of all the consuls in the lower grades, in order that we may pick out the man who has done the best, and put him in the most important place.. In this manner we are able to get a man like Mason in Paris. These regulations provide that the appointment shall be made without regard to political affiliations. They also require that the appointments shall be proportional and representative among the States, proportional to their representation in Congress, so that the whole country will be represented. The original appointments to the lower grades are made upon examination, and at least one language other than the American is obligatory. Those are but regulations. We have not been able to secure their incorporation in the statutes, but I hope they will be put into statutes, just as the regulations regarding the Army and Navy are. This Administration has but fifteen months more, and at the end of it will come another, and nobody knows what the attitude of that will be; but you may be certain that there will be a pressure to break up this system that has been described to you, and to turn backward the movement for the development of this Consular Service, and it will rest with you and with such organization as you may make to see that there is no backward step taken. I think that the members of the Senate and the House are so well satisfied with the working of the new system that they will not wish to disturb it, or to go back to the old methods. I am sure of that. But there will be a pressure that it may be difficult for them to withstand, and I hope there will be an effective organization standing behind the system with competency and effectiveness to enable the whole Government to resist any such pressure. Of course, all movements of this kind have to proceed by steps (leg over leg the dog went to Dover). I hope you are now beginning a process which will bring the great commercial organizations of the country and those branches of the National Government which are charged with promoting the interests of commerce into such constant touch as to bring about that team work necessary for the extension, improvement, and development of American commerce.

RECEPTION AND ADDRESS BY THE PRESIDENT.

At noon the meeting adjourned and the delegates proceeded to the White House where they were received by the President, to whom they were introduced by Secretary Straus. The President spoke as follows:

Mr. Straus, Gentlemen: It is a very real pleasure to bid you welcome this morning. A couple of weeks ago our ex-minister to Spain, Mr. Hannis Taylor, who has studied history very deeply, sent me a pamphlet about the plan of a man named Webster, just before our National Constitution was adopted, proposing the adoption of a constitution for the entire country. His scheme curiously foreshadowed the Constitution which was actually adopted, with the exception that it proposed some method by which the Government should be brought into closer relation with the great mercantile bodies of the country, using a wealth of historical illustration drawn largely from the Republics of Holland and Venice to show the necessity of keeping the Government in touch with the merchants and business men of the nation. In a Government such as ours, it is almost impossible to achieve the best results by either the Government working alone or private bodies working alone. To get the best results it is imperative that there should be the kind of cooperation that I trust is foreshadowed in this meeting here. The purpose of the Department of Commerce and Labor, under Mr. Straus, is, so far as it is feasible to do so, to get into touch with bodies like these represented here and work in harmony with them. It is of course imperative that these bodies should represent all the different cities of the country. When we get representatives from commercial bodies from many different sections of the country together, we are able by the friction, by the rubbing up, to get a course of conduct which will be for the benefit of all. It seems to me that the one lesson more important for our people to learn than any other is that no division of our people by classes or sections can work any good. In the long run we are all going up or down together.

ACTION TAKEN BY THE DELEGATES.

At the conclusion of the addresses made by the Secretary of Commerce and Labor and the Secretary of State, and before the adjournment of the meeting, to enable the delegates to call upon the President, there was a conference of the delegates, who elected Mr. Gustav H. Schwab, of the Chamber of Commerce of the State of New York, the temporary chairman, and Mr. Frank B. Wiborg, of the Cincinnati Chamber of Commerce, temporary secretary, the latter of whom, by reason of being unexpectedly called away, was subsequently succeeded by Mr. William R. Tucker, of the Philadelphia Board of Trade.

At 3 p. m., December 5, 1907, the meeting reconvened in the offices of the Secretary of Commerce and Labor. The Chairman had been authorized to appoint two committees, one on organization, to consist of ten members, and one on rules, to consist of five members, and by unanimous vote of the Conference had been designated as a member and Chairman of the Committee on Organization. The Chairman, pursuant to the authority conferred upon him, appointed the following committees:

COMMITTEE ON ORGANIZATION.

Gustav H. Schwab, *Chairman*, New York, *Chamber of Commerce of the State of New York.*
H. E. Miles, Racine, Wis., *National Association of Manufacturers.*
Mahlon N. Kline, Philadelphia, Pa., *President Philadelphia Trades League.*
Geo. F. Stone, Chicago, Ill., *Secretary Board of Trade.*
D. A. Tompkins, Charlotte, N. C., *Southern Manufacturers' Club.*
H. Mosle, Galveston, Tex., *Chamber of Commerce.*
Henry W. Peabody, Boston, Mass., *National Board of Trade.*
Senator **George C. Perkins**, San Francisco, Cal., *President Chamber of Commerce.*
William P. Kennett, St. Louis, Mo., *Merchants' Exchange.*
Francis B. Loomis, Cincinnati, Ohio.

COMMITTEE ON RULES.

Frank D. La Lanne, Pennsylvania, *President National Board of Trade.*
S. H. Cowan, Fort Worth, Tex., *American National Live Stock Association.*
B. A. Eckhardt, Chicago, Ill., *Chicago Board of Trade.*
I. W. Pope, Atlanta, Ga., *Chamber of Commerce.*
G. D. Rogers, Minneapolis, Minn., *Chamber of Commerce.*

TENTATIVE PLAN OF ORGANIZATION ADOPTED.

The Committee on Organization submitted the following report, embracing a tentative plan or scheme for the organization of a National Council of Commerce, which was adopted:

The purpose of the proposed Council of Commerce is to establish a connecting link between the Department of Commerce and Labor and the business world directly affected by the work of the Department.

Its functions should be:

1. To keep the Department informed of the needs and desires of the business world so far as they may be formulated by responsible commercial and industrial organizations. These organizations should represent manufacture, internal trade, and foreign commerce, both export and import, and possibly transportation.
2. To keep the business community informed regarding the work of the Department, its plans, methods, and results.

The practical character of the work requires that the directing personnel of such a council shall be held down to the smallest possible number of members if it is to be a workable body. It is therefore suggested that the organization consist of two closely connected yet distinct bodies, viz:

1. A National Council of Commerce, which shall appoint—
2. An Advisory Committee.

Each body to elect its own officers and to establish its own rules of procedure.

Under this plan the National Council of Commerce would be composed of one representative from the leading commercial and industrial organizations representing the principal lines of commerce and manufacture in every section of the country.

The membership of the National Council shall consist of the organizations described in the plan of the Secretary, which shall pay the Treasurer of the Council the sum of $100 annually.

The Advisory Committee shall be authorized to pass upon applications for membership in the National Council of Commerce.

THE NATIONAL COUNCIL.

The National Council shall meet in Washington once a year, at a time to be fixed by the Advisory Committee. Special meetings of the Council may be called by the Advisory Committee.

The Council shall hear and act on the reports of the Advisory Committee; discuss and act on measures proposed by the delegates from the various organizations represented; formulate, for action by its constituent bodies or by the Advisory Committee, such suggestions for the promotion of the commerce of the United States as it may agree upon.

All those organizations invited by the Secretary of Commerce and Labor to send representatives to this conference, and which have sent representatives thereto, shall be considered members of the National Council upon payment of the membership fee.

THE ADVISORY COMMITTEE.

The Advisory Committee shall consist of 15 members, representing the leading commercial and industrial organizations of the country, to be selected as the National Council shall provide. Its meetings shall be attended by such officers of the Department as the Secretary of Commerce and Labor may designate, those officials to have a voice in the deliberations, but no vote. It shall meet regularly four times a year, or oftener, if necessary. Its purpose, as stated above, is to act as an intermediary between the Department and the commercial and industrial interests of the country, and to that end it is to exercise the following functions:

1. To receive reports and communications from commercial and other bodies, as to their needs in the promotion of commerce.
2. To receive information from the Department of interest to the business world, which can not be directly disseminated through the publications of the departmental bureaus.
3. To consider with the Department officials and act upon the topics suggested by the reports mentioned under 1 and 2.
4. To furnish the Secretary of Commerce and Labor with authentic information as to the needs and conditions of different industries whenever commercial treaties are under consideration.

5. To suggest special investigations abroad by the agents of the Department.

6. To act as an intermediary between the Department and the commercial and trade bodies in arranging for the representation of American products at international expositions.

7. To confer with other Departments of the Government with a view to promoting the trade interests of the country.

8. To confer with the Secretary of Commerce and Labor regarding legislation which shall have been approved by the National Council and is necessary to promote foreign and domestic commerce or to adequately equip the Department for such work.

The domicil of the Advisory Committee shall be fixed in Washington, D. C.

The Advisory Committee shall be empowered to appoint a competent Secretary, and make such other arrangements necessary for his work.

FRIDAY, DECEMBER 6.

At an adjourned meeting of the delegates, held on the morning of December 6, 1907, the appointment of an Advisory Committee as contemplated by the plan of organization previously adopted was announced, which will eventually consist of fifteen members, but which is at present composed of but twelve gentlemen, whose names are given below. The Chairman, Mr. Gustav H. Schwab, had been previously authorized and directed, on motion carried unanimously, to nominate members of the Advisory Committee, and to present the nominations at an adjourned meeting for action, and in the same motion he was directed to include his own name in the list of nominations.

ADVISORY COMMITTEE.

H. E. Miles, Racine, Wis., *National Association of Manufacturers.*

N. J. Batchelder, New Hampshire, *President National Grange.*

Mahlon N. Kline, Philadelphia, Pa., *President Philadelphia Trades League.*

L. A. Ransom, Atlanta, Ga., *Chamber of Commerce.*

George F. Stone, Chicago, Ill., *Secretary Board of Trade.*

H. Mosle, Galveston, Tex., *Chamber of Commerce.*

Senator George C. Perkins, San Francisco, Cal., *President Chamber of Commerce.*

Henry W. Peabody, Boston, Mass., *Chamber of Commerce.*

James E. Smith, St. Louis, Mo., *President Business Men's League.*

Frank B. Wiborg, Cincinnati, Ohio, *Chamber of Commerce.*

D. A. Tompkins, Charlotte, N. C., *Southern Manufacturers' Club.*

Gustav H. Schwab, New York City, *Chamber of Commerce of the State of New York.*

These appointments were ratified.

The Advisory Committee was authorized to adopt such rules and regulations as in its judgment may be necessary to further the objects of the organization, as well as to perform all duties properly falling within the scope of the call for the meeting by the Secretary of Commerce and Labor.

ADDITIONAL ORGANIZATIONS ELECTED TO MEMBERSHIP.

The following additional organizations were elected members of the Council:

American Cotton Manufacturers' Association.

Fort Worth Board of Trade.

Cattle Raisers' Association of Texas.

American National Live Stock Association, Denver, Colo.

Interstate Cotton Seed Crushers' Association, Dallas, Tex.

New England Shoe and Leather Association, Boston, Mass.

National Association of Agricultural Implement and Vehicle Manufacturers.

Elmira Chamber of Commerce, Elmira, N. Y.

Washington Chamber of Commerce, Washington, D. C.

Mr. Gustav H. Schwab was made Chairman of the National Council of Commerce; Mr. Frank B. Wiborg, Treasurer; and Mr. William R. Corwine, Temporary Secretary.

It was decided not to fill the position of Secretary at the present time, as it was the concensus of opinion that the Secretary should be a salaried officer, with headquarters in Washington at the offices of the Council and the Advisory Committee. It was believed that a decision in this matter could be better reached when the income that would be at the disposal of the Committee was more definitely known.

Announcement was made that organizations desiring to become members of the National Council of Commerce should address the Chairman of the Council, Mr. Gustav H. Schwab, 5 Broadway, New York City, who, with the assistance of Mr. William R. Corwine, has consented to attend to the further preliminary work of organization.

RESOLUTIONS ADOPTED.

The following resolution was introduced and unanimously adopted by a rising vote:

Resolved, That this conference and the vast interests represented by its members hereby express their gratitude to the Secretary of Commerce and Labor, and their deep appreciation of the opportunity given them to confer with him upon this occasion; and further

Resolved, That this conference recognizes and desires to record its appreciation of the high motives and constructive genius of the Secretary of Commerce and Labor in first perceiving the practical need of uniting the business forces of the country for the furtherance of their best interests, and the national progress in harmonious and close relations with his Department and the National Government.

At 11 a. m., December 6, 1907, the conference adjourned sine die.

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CONSULAR AND TRADE PUBLICATIONS.

The publications made up chiefly of reports from United States consular officers in foreign countries include the following:

- COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.
- REVIEW OF WORLD'S COMMERCE, being a summary of the annual reports contained in COMMERCIAL RELATIONS.
- DAILY CONSULAR AND TRADE REPORTS, issued daily, except Sundays and legal holidays, mailed gratuitously to commercial and industrial organizations, manufacturers, exporters, and the press.
- MONTHLY CONSULAR AND TRADE REPORTS, compiled from the daily, and issued every month with index.
- SPECIAL CONSULAR REPORTS, on particular subjects, made in pursuance to instructions from the Departments of State and of Commerce and Labor.

Until July, 1903, all Consular Reports were issued by the Bureau of Foreign Commerce of the Department of State; from that date until June, 1905, they were issued by the Bureau of Statistics of the Department of Commerce and Labor, with which the Bureau of Foreign Commerce of the Department of State was consolidated July 1, 1903; since July 1, 1905, they have been issued by the Bureau of Manufactures, Department of Commerce and Labor. For details of these publications, and the reports remaining for distribution, address "Chief, Bureau of Manufactures, Department of Commerce and Labor, Washington, D. C."

The publication of reports on specific subjects, in separate form, was begun in 1890. The editions of many of them are exhausted. The following titles are available for distribution:

Vol. 23 (1901).—Part I. Gas and Oil Engines.
Vol. 26 (1903).—Briquettes as Fuel in Foreign Countries.
Vol. 27 (1903).—Markets for Agricultural Implements and Vehicles.
Vol. 32 (1904).—Foreign Markets for American Fruits.
Vol. 39 (1907).—Cotton-Seed Products in Foreign Countries.
Vol. 40 (1907).—Motor Machines.
Foreign Markets for Sale of American Cotton Products.
Cotton Fabrics in British India and The Philippines.
Leather and Boots and Shoes in European Markets.
England's Cotton Industry.
Tariff series:
  No. 1. Tariffs on Leather and its Manufactures.
  No. 2. Tariffs on Agricultural and Animal Products.
  No. 3. Tariffs on Machinery, Machine Tools, and Vehicles.
  No. 4. Conventional Tariff of Servia, based on Treaties with Great Britain, France, and Italy.
  No. 5. Commercial Agreement between the United States and Germany.
  No. 6. Customs Tariff of France.

A few copies of reports made by special agents on trade conditions in the countries visited by them are also available, as follows:

Argentina.
Asiatic Turkey.
Brazil.
Central America and West Coast of South America.
China.
Cuba.
India.
Japan and Korea.
Mexico.

"Trade with China" is a pamphlet of 110 pages, illustrated, with an introductory chapter on Packing. It is compiled from reports made by special agents which were printed in Daily and Monthly Consular and Trade Reports. A few copies are available.

Of the MONTHLY CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Department will be grateful for the return of any copies of the Monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, franking labels to be used in lieu of postage in the United States, the Philippine Islands, Hawaii, and Porto Rico will be forwarded.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

All communications relating to CONSULAR REPORTS should be addressed, "Chief, Bureau of Manufactures, Department of Commerce and Labor, Washington, D. C."

VALUES OF FOREIGN COINS AND CURRENCIES.

[As given by the Director of U. S. Mint and published by Secretary of the Treasury Oct. 1, 1907.]

COUNTRIES WITH FIXED CURRENCIES.

Countries.	Monetary unit.	Value in U.S. gold.	Coins.
Argentina	Peso	$0.965	Gold—argentine ($4.824) and ½ argentine; silver—peso and divisions.
Austria-Hungary	Crown	.203	Gold—10 and 20 crowns; silver—1 and 5 crowns.
Belgium	Franc	.193	Gold—10 and 20 francs; silver—5 francs.
Brazil	Milreis	.546	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British N. A. (except Newfoundland).	Dollar	1.00	
British Honduras	do	1.00	
Chile	Peso	365	Gold—escudo ($1.825), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Colombia	Dollar	1.00	Gold—condor ($9.647) and double condor; silver—peso.
Costa Rica	Colon	.465	Gold—2, 5, 10, and 20 colons ($9.307); silver—5, 10, 25, and 50 centimos.
Denmark	Crown	.268	Gold—10 and 20 crowns.
Ecuador	Sucre	.487	Gold—10 sucres ($4.8665); silver—sucre and divisions.
Egypt	Pound (100 piasters).	4.943	Gold—5, 10, 20, and 50 piasters; silver—1, 2, 5, 10, and 20 piasters.
Finland	Mark	.193	Gold—10 and 20 marks ($1.93 and $3.859).
France	Franc	.193	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Mark	.238	Gold—5, 10, and 20 marks.
Great Britain	Pound sterling	4.866½	Gold—sovereign (£) and half sovereign.
Greece	Drachma	.193	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	Gourde	.965	Gold—1, 2, 5, and 10 gourdes; silver—gourde and divisions.
India	Pound sterling [a].	4.866½	Gold—sovereign (£); silver—rupee and divisions.
Italy	Lira	.193	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Japan	Yen	.498	Gold—5, 10, and 20 yen; silver—10, 20, and 50 sen.
Liberia	Dollar	1.00	
Mexico	Peso [b]	.498	Gold—5 and 10 pesos; silver—dollar [c] or peso and divisions.
Netherlands	Florin	.402	Gold—10 florins; silver—2½, 1 florin, and divisions.
Newfoundland	Dollar	1.014	Gold—$2 ($2.027).
Norway	Crown	.268	Gold—10 and 20 crowns.
Panama	Balboa	1.00	Gold—1, 2½, 5, 10, and 20 balboas; silver—peso and divisions.
Peru	Libra	4.866½	Gold—½ and 1 libra; silver—sol and divisions.
Philippine Islands	Peso	.50	Silver—peso, 10, 20, and 50 centavos.
Portugal	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Russia	Ruble	.515	Gold—5, 7½, 10, and 15 rubles; silver—5, 10, 15, 20, 25, 50, and 100 copecks.
Spain	Peseta	.193	Gold—25 pesetas; silver—5 pesetas.
Sweden	Crown	.268	Gold—10 and 20 crowns.
Switzerland	Franc	.193	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Piaster	.044	Gold—25, 50, 100, 250, and 500 piasters.
Uruguay	Peso	1.034	Gold—peso; silver—peso and divisions.
Venezuela	Bolivar	.193	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

COUNTRIES WITH FLUCTUATING CURRENCIES.[d]

Country and monetary unit.	July 1, 1906.	Oct. 1, 1906.	Jan. 1, 1907.	Oct. 1, 1907.
Bolivia:	Cts.	Cts.	Cts.	Cts.
Silver boliviano	48.0	48.5	51.0	49.9
Central America:				
Silver peso	48.0	48.5	51.0	49.9
China:				
Amoy tael	78.8	73.0	83.6	81.8
British dollar	......	52.3	55.0	53.8
Canton tael	78.5	79.2	83.3	81.5
Chefoo tael	75.3	76.0	79.9	78.2
Chinkiang tael	76.9	77.6	81.6	79.9
Fuchau tael	72.8	73.5	77.3	75.6
Haikwan (customs) tael	80.1	80.8	85.0	83.2
Hankow tael	73.7	74.3	78.2	76.5
Hongkong dollar	51.8	52.3	55.0	53.8
China—Continued.	Cts.	Cts.	Cts.	Cts.
Kiaochow tael	77.7	77.0	81.0	79.2
Mexican dollar	......	52.6	55.4	54.2
Nankin tael	77.9	78.6	82.7	80.9
Newchwang tael	75.7	74.5	78.4	76.7
Ningpo tael	78.9	76.4	80.3	78.6
Peking tael	76.8	77.5	81.5	79.7
Shanghai tael	71.9	72.6	76.3	74.7
Swatow tael	72.7	73.4	77.2	75.5
Takau tael	79.2	79.9	84.1	82.3
Tientsin tael	76.3	77.0	81.0	79.2
Persia:				
Silver kran	8.8	8.9	9.4	9.2
Straits Settlements:				
Silver dollar	......	52.3	56.8	56.8

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[a] The rupee, $0.3244⅓, 15 to the sovereign, constitutes the money of account.

[b] Seventy-five centigrams fine gold.

[c] Value in Mexico, $0.498.

[d] Coins of silver-standard countries are valued by pure silver content at average market price of silver for the three months preceding date of circular issued by United States Treasury Department.

DEPARTMENT OF COMMERCE AND LABOR
BUREAU OF MANUFACTURES

MONTHLY CONSULAR AND TRADE REPORTS

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MONTHLY CONSULAR
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FOREIGN COMMERCE.

UNITED KINGDOM.

IMPORTS AND EXPORTS SHOW HEAVY INCREASES.

LAST YEAR A HIGHLY PROSPEROUS ONE IN THE EMPIRE'S COMMERCE—PARTICIPATION OF THE UNITED STATES.

Consul-General Robert J. Wynne, of London, reports that the British Board of Trade returns for 1907 show the following figures:

	1907.	Increase over 1906.
Imports	$3,148,292,672	$185,003,287
Exports	2,074,124,666	245,386,984
Re-exports	447,582,424	33,431,205

A comparison of 1907 with 1906 shows that the imports of food, drink, and tobacco increased $44,909,755; raw materials increased $146,561,266; manufactured articles decreased $6,057,055; and miscellaneous decreased $410,679, making a total net increase of $185,003,287.

Of the increase of $146,561,266 in raw materials, cotton counts for $71,455,166, wool for $29,026,723, and oils $24,636,579 (including petroleum spirit). Although the volume of all three was larger, prices were considerably higher. The principal increases in the exports were as follows:

Classes.	Increases.	Classes.	Increases.
Coal	$51,656,452	Woolen fabrics, including yarn	$11,277,233
Iron and steel manufactures	33,196,627	Other textile materials	5,587,012
Other metals	7,532,782	Chemicals	7,483,810
Machinery	24,291,798	All other items, including foodstuffs	45,884,629
Ships	6,711,585		
Cotton fabrics, including yarn	52,816,861	Total	246,387,284

The increased value of the coal exported was accompanied by an addition of 8,271,000 tons in the quantity, and in the decreases worth notice hides and undressed skins stood for $1,912,289.

STATISTICAL REVIEW.

LARGE INCREASE IN BOTH IMPORTS AND EXPORTS LAST YEAR.

Official returns covering the foreign trade of the United Kingdom for the calendar years 1906 and 1907 show that the total imports and exports of merchandise, as well as re-exports, for both years were as follows

Year.	Imports.	Exports.		
		British products.	Foreign and colonial products.	Total exports.
1906	$2,958,289,385	$1,827,737,382	$414,151,219	$2,241,888,601
1907	3,143,292,672	2,074,124,666	447,582,424	2,521,707,090
Increase	185,003,287	246,387,284	33,431,205	279,818,489

The imports and exports, by classes of products, are given as follows:

Classes.	Imports.		Exports, British products.	
	1906.	1907.	1906.	1907.
1. FOOD, DRINK, AND TOBACCO.				
Grain and flour	$330,340,441	$366,939,409	$12,515,645	$15,048,809
Meat and meat animals	253,187,204	252,652,815	6,518,070	6,371,976
Other food and drink:				
Non-dutiable	334,927,665	328,439,851	78,563,764	83,136,123
Dutiable	217,577,185	235,298,847		
Tobacco	22,964,171	20,575,499	5,161,702	6,150,356
Total class 1	1,158,996,666	1,203,906,421	102,758,921	110,707,264

Articles.	Imports.		Exports.	
	1906.	1907.	1906.	1907.
2. RAW MATERIALS AND ARTICLES UNMANUFACTURED.				
Coal, coke, and manufactured fuel	229,238	101,442	158,315,632	204,972,084
Iron ore, scrap iron and steel	32,930,418	35,812,330	2,904,439	2,790,105
Other metallic ores	43,945,206	49,288,676	856,947	929,997
Wood and timber	183,864,810	131,854,727	445,649	547,754
Cotton	278,133,543	344,588,709		
Wool	148,404,771	177,431,494	14,423,016	15,611,678
Other textile materials	82,850,766	87,663,816	799,313	1,107,040
Oil seeds, nuts, oils, fats and gums	124,748,902	149,385,481	13,743,404	16,701,448
Hides and skins, undressed	52,070,070	52,285,380	10,753,762	8,840,873
Paper-making materials	19,149,677	21,233,975	3,474,085	3,663,160
Miscellaneous	117,831,877	126,074,514	10,144,457	12,516,471
Total class 2	1,029,159,278	1,175,720,544	210,560,704	267,680,610
3. ARTICLES WHOLLY OR MAINLY MANUFACTURED.				
Iron and steel and manufactures thereof	40,682,743	85,112,658	193,884,256	227,079,883
Other metals and manufactures thereof	137,389,694	140,801,626	49,813,227	56,846,009
Cutlery, hardware, implements and instruments	18,354,569	19,817,094	28,619,886	31,297,118
Electrical goods and apparatus other than machinery	5,759,576	6,071,688	11,590,757	12,088,999
Machinery	24,950,049	25,850,740	130,285,397	154,577,190
Ships, new	138,209	131,469	42,066,858	48,778,443
Manufactures of wood and timber	9,814,407	9,343,806	6,354,169	6,804,345
Textiles and yarn:				
Cotton textile fabrics	45,387,544	46,346,775	427,002,828	462,410,426
Cotton yarn			57,597,961	75,027,224
Linen textile fabrics			34,073,252	35,746,646
Linen yarn	4,493,848	3,845,674	4,895,518	5,047,780
Woolen textile fabrics	58,767,065	52,508,284	100,172,138	107,810,883
Woolen yarn	11,145,381	13,428,396	36,304,318	40,457,336
Shoddy, flocks, waste, tops, etc			18,490,816	17,976,286
All other textiles and yarn	82,050,272	83,660,118	34,001,626	39,538,638
Apparel	18,417,162	17,601,989	33,180,639	34,963,428
Chemicals, drugs, dyes and colors	49,171,656	56,729,170	75,531,347	83,017,667
Leather and manufactures thereof	62,024,175	56,114,341	31,105,533	32,117,284
Earthenware and glass	20,532,551	19,720,961	17,808,995	19,710,979

Articles.	Imports.		Exports.	
	1906.	1907.	1906.	1907.
3. ARTICLES WHOLLY OR MAINLY MANUFACTURED—Continued.				
Paper	$27,877,769	$27,611,620	$10,043,560	$11,399,406
Miscellaneous	141,289,731	137,492,937	144,527,884	162,493,072
Total class 3	758,246,401	752,189,346	1,486,852,965	1,665,189,042
Unclassified, including parcels post	11,887,040	11,476,361	27,564,792	30,547,750
Grand total	2,958,289,385	3,143,292,672	1,827,737,382	2,074,124,666

EXPORTS OF FOREIGN AND COLONIAL PRODUCTS.

The exports of foreign and colonial products by classes from the United Kingdom during the years 1906 and 1907 were as follows:

Classes.	1906.	1907.
1 Food, drink, and tobacco	$58,635,505	$59,227,981
2. Raw materials and articles unmanufactured	230,754,475	258,709,583
3. Articles wholly or mainly manufactured	123,831,815	128,734,010
Unclassified, including parcels post	929,424	910,850
Total	414,151,219	447,582,424

IMPORTS OF MEAT, GRAIN AND FLOUR, AND TOBACCO.

The official publication from which the foregoing statistics are derived do not permit of much elaboration as far as showing the imports by countries is concerned, but the following statement, showing the total imports of meat and meat cattle, grain and flour, and tobacco, together with the imports thereof from the United States will be of interest to American producers:

Articles.	Total imports.		Imports from the United States.	
	1906.	1907	1906.	1907.
Meat and animals for meat only:				
Cattle	$47,361,654	$39,443,512	$33,746,905	$28,817,857
Sheep and lambs	763,782	820,156	620,596	677,173
Total animals	48,125,436	40,263,668	34,367,501	29,595,030
Fresh beef	47,621,659	50 597,496	25,479,353	25,162,690
Fresh mutton	37,208,942	42,396,612	....	....
Fresh pork	5,508,768	6,512,555	1,308,184	994,080
Bacon	71,265,586	72,214,971	33,379,620	29,406,211
Hams	16,991,842	15,778,088	13,769,137	11,608,549
All other, including poultry	26,469,971	24,889,430	8,497,255	7,071,457
Total meats	205,061,768	212,389,147	82,433,499	74,242,987
Grain and flour:				
Wheat	159,018,654	181,699,183	39,128,071	39,320,750
Flour	33,175,830	32,578,940	23,089,936	23,078,935
Barley	27,629,977	31,948,611	4,196,543	4,486,869
Oats	22,055,756	16,471,044	4,796,185	386,458
Indian corn	58,262,195	71,071,140	22,404,232	19,067,031
All other, including rice, etc	30,198,029	33,170,491	3,392,256	3,357,885
Total	330,340,441	366,939,409	97,007,223	89,692,923
Tobacco:				
Unmanufactured	15,040,629	15,011,980	12,397,331	12,204.719
Manufactured	7,923,542	5,563,519	6,250,007	4,008,887
Total	22,964,171	20,575,499	18,647,338	16,213,606

EXPORTS OF MACHINES AND MACHINERY.

The following statement shows the exports of British machinery to the several countries, as far as the statistics permitted, in 1906 and 1907:

Description and whither exported.	1906.	1907.
Steam engines:		
Locomotives—		
South America	$7,578,551	$8,054,349
British East Indies	3,685,546	5,950,347
Spain	177,729	505,623
Australasia	170,546	278,339
Other countries	2,477,570	1,929,949
Total	14,089,942	16,718,607
Agricultural—		
Europe	2,945,755	2,880,023
South America	1,402,678	863,443
Australasia	298,773	292,540
British East Indies	167,227	202,426
Other countries	712,188	756,490
Total	5,526,621	4,994,922
Other descriptions—		
Europe	3,552,603	4,170,040
South America	2,524,540	2,490,669
British India	2,099,021	2,538,911
Australasia	1,030,568	1,175,877
British South Africa	540,677	606,906
Other countries	4,029,752	5,824,823
Total	13,777,761	16,807,226
Total steam engines	33,394,324	38,520,755
Other than steam engines:		
Agricultural machines—		
Europe	3,429,018	3,355,991
South America	1,370,917	1,050,292
Australasia	224,384	301,537
British East Indies	88,366	148,603
British South Africa	131,706	135,847
Other countries	456,572	519,148
Total	5,700,963	5,511,418
Sewing machines—		
Europe	6,462,336	7,114,410
South America	271,701	384,497
British East Indies	258,624	323,539
British South Africa	154,583	120,439
Other countries	526,331	953,118
Total	7,678,575	8,905,003
Other than steam engines—Continued.		
Mining machinery—		
British South Africa	$1,200,098	$1,216,892
Australasia	436,539	508,457
South America	350,417	444,598
British East Indies	335,462	444,724
Europe	228,336	378,764
Other countries	1,015,621	1,264,032
Total	3,566,473	4,257,467
Textile machinery—		
Germany	4,188,460	5,155,837
France	3,436,513	4,210,670
Russia	1,220,800	1,825,618
Other European countries	8,380,166	10,161,798
British India	8,343,181	8,674,901
United States	2,905,218	2,843,082
Japan	1,258,087	2,283,648
South America	1,024,894	1,877,841
China and Hongkong	501,375	469,676
Other countries	1,897,730	1,591,201
Total	32,656,424	39,121,272
Other descriptions:		
Europe	15,196,507	19,239,697
British India	6,173,462	7,406,676
South America	6,335,560	6,307,204
Australasia	2,508,175	3,662,690
British South Africa	1,984,266	1,874,560
United States	644,587	699,914
Straits settlement	322,683	464,069
Ceylon	256,187	310,292
Other countries	9,775,988	13,422,054
Total	43,197,424	53,887,086
Total machinery, not steam engines or electrical	92,794,850	111,182,246
Electrical machinery	4,096,209	4,874,189
Total machinery of all kinds	130,285,392	154,577,190

EXPORTS OF BOOTS AND SHOES.

The greater portion of the exports of boots and shoes from the United Kingdom go to the British possessions, the only foreign country specially designated in the advance returns being Brazil.

Whither exported.	1906.	1907.	Whither exported.	1906.	1907.
British South Africa	$4,408,693	$3,902,422	Brazil	$44,956	$40,966
Australasia	1,441,044	1,453,716	Other countries	2,370,304	3,015,852
British India	887,216	1,015,512	Total	9,523,453	9,926,243
British West Indies and Guiana	371,240	497,775			

EXPORTS OF BRITISH COTTON PIECE GOODS.

The following statement showing the exports of British cotton piece goods of all kinds to the several countries will enable American factors to fully appreciate the vastness and the universal distribution of the products of this premier industry of the United Kingdom:

Whither exported.	Quantity.		Value.	
	1906.	1907.	1906.	1907.
	Yards.	*Yards.*		
United States	78,734,900	98,375,900	$10,784,894	$13,487,708
Canada	55,156,800	91,659,000	4,930,679	7,619,542
Mexico	25,598,400	29,390,600	1,823,492	2,313,665
Central America	42,900,300	46,248,500	2,231,368	2,499,280
Cuba	58,712,800	64,242,700	2,726,495	3,157,769
Haiti and Santo Domingo	16,883,600	10,613,300	962,797	634,572
British West Indies and Guiana	49,579,400	53,792,800	2,696,148	3,013,180
Colombia and Panama	58,177,100	61,506,300	2,967,654	3,201,959
Venezuela	50,904,500	53,327,800	2,204,694	2,333,204
Peru	36,902,000	34,114,700	2,201,239	2,161,660
Chile	104,449,400	112,445,500	6,029,136	7,005,156
Brazil	124,166,700	144,247,900	8,154,275	9,576,940
Uruguay	43,911,000	32,802,900	2,854,946	2,391,383
Argentine Republic	192,919,000	149,224,000	13,626,664	11,208,113
Egypt	297,203,600	265,727,500	15,583,302	14,880,496
Morocco	51,102,200	55,970,000	2,640,217	2,902,915
Foreign West Africa	68,864,200	56,219,400	4,581,697	3,978,178
British West Africa	73,840,200	94,051,600	5,329,756	7,195,037
British South Africa	59,947,400	52,941,500	4,542,235	4,126,032
China (including Hongkong)	647,422,700	553,373,000	45,049,963	43,972,389
Japan	110,286,400	121,240,900	7,719,821	9,384,495
Dutch East Indies	206,263,500	207,936,600	11,614,395	12,235,410
Philippine Islands	36,596,200	50,362,600	2,364,943	3,385,253
Persia	37,659,000	51,080,600	2,143,347	3,022,422
British India	2,351,694,500	2,454,233,800	110,006,590	122,889,266
Straits Settlements	131,212,200	95,394,200	7,743,769	6,564,080
Ceylon	23,666,500	22,665,400	1,470,325	1,505,198
Australia	154,991,600	158,830,900	12,703,360	13,875,028
New Zealand	37,422,000	41,997,000	2,994,196	3,454,484
Germany	72,685,500	85,931,900	5,959,385	7,577.442
Netherlands	56,059,600	54,784,300	4,135,797	4,067,191
Belgium	81,075,100	102,355,000	7,457,527	9,343,076
France	15,038,200	21,593,600	1,465,001	2,058,354
Portugal, Azores, and Madeira	35,107,300	29,751,100	2,180,186	2,034,221
Italy	11,048,200	17,748,000	1,206,312	1,701,498
Austria-Hungary	2,004,500	4,345,800	169,733	339,277
Greece	29,226,200	29,895,000	1,967,258	2,067,123
Turkey	478,960,500	401,335,200	24,931,600	21,796,970
All other countries	252,398,200	286,193,100	16,604,946	19,461,866
Total	6,260,771,400	6,298,040,500	366,790,142	394,421,732

FOREIGN TRADE REVIEW.

INTERESTING FACTS FROM THE LONDON ECONOMIST.

A review of Great Britain's exports and imports for 1907, by the London Economist, calls attention to the fact that there was an increase of £9,228,348 (£=$4.86) in the imports of food, drink, and tobacco. Of that, £7,520,502 was in grain and flour, wheat accounting for £4,660,000, barley for £888,000, and maize (corn) for £2,636,000, while there were decreases in flour and oats. The increased supplies of wheat came mainly from India and Argentina, Russia and the United States sending smaller quantities than in 1906. There were decreased importations of butter and cheese from Canada, and of fish from Canada and the United States. There was an increase of £30,116,360 over the previous year in the imports of raw materials and articles mainly unmanufactured, the increases occurring chiefly in cotton, wool, oilseeds, nuts, oils, fats, and gums. The advance in cotton was more largely due to higher prices than increased quantities. There was a decline of £1,224,643 in the importation of articles wholly or partly manufactured. The decline would have been larger still except for increases in the values of metals and chemicals imported mainly for use as materials in British manufacturing industries. Leather, however, showed a decrease of £1,214,391, and there were heavy shrinkages in the imports of iron and steel manufactures, and cotton goods.

There was an increase of 13 per cent in the exports of British products and manufactures. The advance in some of these things was more largely due to the higher prices than to increased quantities, though both factors contributed to the result. The cotton manufacturing industry was prominent, with an increase of £10,859,316, very largely due to the higher prices. Conspicuous items in bringing about the increase were larger shipments of cotton yarns to Germany and the Netherlands, and piece goods to India, Japan, Canada, and the United States. The quantity of worsted goods exported was actually smaller than in 1906. The exports of tin plates were nearly £1,000,000 greater than in the previous year. The export of new ships was very satisfactory, the value amounting to £10,023,317.

BRITISH INVESTMENTS ABROAD.

MARKED EFFECT IN INCREASING THE FOREIGN TRADE OF THE KINGDOM.

The London Statist in speaking of British capital employed abroad, states that in the year 1907 nearly £50,000,000 (£=$4.86) was sent abroad to be used for railway construction, which was largely employed in India, Canada, Argentina, and the United States. The expansion of British export trade to a total of £426,000,000 in 1907, an increase of £51,000,000, or 13 per cent over 1906 and of nearly 47 per cent in four years, is said to be largely due to the investments made by British people in foreign countries. The balance of British imports over exports in 1907 of only £128,000,000 was due, the Statist says, to interest and other services, and for the receipt of this large amount of produce Britain supplied other countries with capital to the extent of £80,000,000. The details of the capital provided for other countries in 1907 is given by the Statist as follows:

Investments.	Foreign.	Indian.	Colonial.	Total.
Government securities	£21,288,767	£3,447,500	£11,972,383	£36,708,650
Corporation stocks	313,830		1,436,732	1,750,572
Railways	21,659,555	2,200,000	2,978,665	26,838,220
Banks	4,359,333	800,000	300,600	5,459,333
Breweries	47,120			47,120
Canals and docks				Nil.
Commercial, industrial, etc	2,103,161	250,000	489,000	2,842,161
Electric lighting and power	488,169		471,000	959,169
Financial, land, investment, and trusts	2,121,280		336,500	2,457,780
Gas and water	255,000		180,000	435,000
Insurance				Nil.
Iron, coal, and steel	270,847		183,750	454,597
Mines	1,905,211	137,717	1,492,834	3,535,762
Motor traction and manufacturing	302,000	25,000	10,000	337,000
Nitrate	370,250			370,250
Shipping	450,000			450,000
Tea, coffee, and rubber	964,300	207,870	314,500	1,486,670
Telegraphs and telephones	7,940,000			7,940,000
Tramways	1,195,402	150,000	394,000	1,739,402
Total	66,084,225	7,218,087	20,559,364	93,311,676

The above list does not include a large portion of the capital raised in this country without public notice by American railways, and does not include the capital raised privately by bankers, merchants, and others for the extension of their enterprises in other countries.

In speaking of the imports of other countries for consumption, the Statist says:

> The country which comes next to Great Britain in the amount of goods it is able to import from abroad for consumption is Germany. In 1907 that country imported from abroad goods of the value of £430,000,000, in comparison with £392,000,000 in 1906 and £300,000,000 in 1903, an expansion in the short space of four years of no less than £130,000,000, or 43.4 per cent. With regard to the expansion in the trade of Germany in recent years, it is necessary to point out that certain changes have been made which have swollen the figures of the trade of Germany. Since March, 1906, the imports from and the exports into the ports of Hamburg, Coxhaven, Bremerhaven, and Gustemünde, and the free districts of Bremen and Emden have been included.

BRITISH TONNAGE.

DECREASE LAST YEAR—FOREIGNERS ON ENGLISH SHIPS.

The production of merchant steamers in British shipyards in 1907, according to the statistics of Lloyd's Register, was 1,742,365 tons, or a decrease 220,000 tons from the previous year.

According to another report the net addition to the British register after deducting losses, vessels sold to foreigners, etc., for ten years up to 1906 was 5,488,938 tons steamers, and the net reduction of sailing ships was 1,230,641 tons. There was a large extension of British commerce in the same period. The export of coal alone increased from 34,000,000 tons in 1896 to 55,500,000 tons in 1907. The carriage of grain from long distances—River Plate, Australia, and the west coast of America—to countries of quickly increasing population instead of as formerly from nearer sources, greatly lengthened voyages for the existing large merchant fleet.

It is stated that prices of new tonnage to build are about 10 per cent lower than a year ago. British shipbuilders are seeking to reduce the wages of their men. Strikes continue prevalent in Great Britain in almost every branch connected with the shipping. There have been strikes of seamen in British and many foreign ports. The prices of vessels are now said to be 15 per cent lower than a year ago. British and German shipowners have agreed on the same load line for their ships. The Australian Commonwealth mail contract made last year with a syndicate which was to have begun running this year has been canceled and the subsidy given to the old contractors—the Orient Steam Navigation Company—to begin running in 1910 under the Commonwealth flag.

Foreign shipbuilding continues to extend. In Japan they are building steamers up to 13,000 tons gross register with turbine engines. The Japanese are also producing their own steel plates, and will doubtless soon be able to supply themselves with all their ships and material. Australia is reported to contemplate becoming its own shipbuilder. Some foreign countries are supporting their shipowners by granting loans at moderate interest. A powerful amalgamation has been made in Italy to control the principal steamship lines running out of that country, and including the control of some of the principal Italian shipbuilding yards. Complaint is made of low freights and higher running expenses which, it is said, may result in disaster to British shipping interests. A London report says:

> Some extraordinary voyages were undertaken last year. A steamer was sent from the Tyne to Java in ballast to load home at a very ordinary rate. When rates were very low from the River Plate in July steamers were sent in ballast from the Plate to Java and from the Plate to Karachi, India, to load home. A steamer was sent in ballast from the Plate to Natal, and then, finding the market depressed, was sent on to Australia to load home. Steamers have gone in ballast from Bombay to Australia to load home.

German shipbuilding showed a serious decline in 1907. Last year Germany built 275,000 tons as compared with 318,000 tons in 1906, while at the same time she purchased less from Great Britain. A matter of great discontent in the United Kingdom is the large percentage of foreigners employed in the British mercantile marine, numbering a total of 40,000. The British Naval League is agitating the utilization of the unemployed to take the place of aliens on British ships.

TRADE WITH CANADA.

SPECIAL REPORT PREPARED FOR AND ISSUED BY THE BOARD OF TRADE.

The commercial intelligence committee of the Board of Trade, London, has issued a Blue Book, entitled "Conditions and Prospects of British Trade in Canada," prepared by Mr. Richard Grigg, special commissioner to the advisory committee of the board, who traveled in the Dominion during a considerable portion of the years 1906 and 1907 for the purpose of collecting materials for this work.

From an editorial review of Mr. Grigg's report which recently appeared in the London Financial Times the following extracts are taken as being of interest to American manufacturers and exporters, especially those doing business in the Dominion:

PROGRESS OF CANADA SINCE THE CONFEDERATION.

In the following table we show the progress achieved since the confederation, as illustrated by the growth of population and foreign trade:

Year.	Population.			Exports and imports.			
	Number.	Increase.		Amount.	Increase.		Per capita.
		Actual.	Relative.		Actual.	Relative.	
		Number.	*Per cent.*			*Per cent.*	
1871	3,485,800	[a] 114,200	3	£30,339,500	[a] £6,381,100	26	£9
1881	4,324,800	839,000	24	37,561,600	7,222,100	23	9
1891	4,833,200	508,400	12	41,800,900	4,239,300	11	9
1901	5,371,300	538,100	11	74,442,000	32,641,100	78	14
1906	6,440,000	1,068,700	20	105,988,000	31,546,000	42	16

[a] On 1868, the year of confederation.

These figures indicate an amazing vitality in the colony throughout, and point particularly to an increasing industrial energy in recent years. During the first three decades trade only kept pace with population, but now business is advancing relatively much faster, and the amount per head is nearly double what it was fifteen years ago.

IMPORTS FROM THE UNITED KINGDOM AND THE UNITED STATES.

As regards imports, the subject which comes home most nearly to British merchants, the chief features can be very broadly defined. Roughly speaking, this section of the commerce of the Dominion is practically controlled by the

United Kingdom and the United States, which accounts for over 84 per cent of it. In the table below we set forth the amount of imports sent in by each of these two countries during the past decade:

Year.	Imports from United Kingdom.		Imports from United States.	
	Amount.	Proportion of total.	Amount.	Proportion of total.
		Per cent.		*Per cent.*
1896-97	£5,880,200	27.58	£11,404,700	53.48
1897-98	6,408,700	25.86	14,965,000	59.24
1898-99	7,386,300	24.72	17,693,400	59.24
1899-1900	8,856,000	25.66	20,416,000	59.17
1900-1901	8,564,000	24.10	21,429,900	60.30
1901-1902	9,804,500	24.95	22,948,900	58.40
1902-1903	11,758,600	26.15	25,758,000	57.29
1903-1904	12,344,900	25.34	28,602,100	58.78
1904-1905	12,068,500	23.98	30,486,300	60.58
1905-1906	13,836,800	24.42	33,759,700	59.59

What strikes one at first sight about the figures is the slight change in the relative proportions furnished by ourselves and the States. The totals have more than doubled, but the ratio to the aggregate imports in neither case exhibits any fluctuation of importance. In one respect this is distinctly disappointing, because throughout the decade there was preferential treatment of British goods and a considerable improvement in the proportionate volume of business done might have been looked for. It is the fact, however, that during the last quinquennium, when higher preference rates were conceded to us than in the preceding five years, our percentage was actually slightly lower than in the latter period. Between 1891-92 and 1895-96 our proportion ranged between 36.92 and 31.15 per cent, and that of the United States between 50.80 and 44.90 per cent. What has evidently been accomplished by the preferential tariff is a checking of the decline which set in between 1892 and 1895, and in this respect, at all events, it has performed a service to British manufacturers which they will gladly acknowledge. The board of trade's report does not fail to draw attention to this point, but it also thinks that some share of the credit for arresting the decline is due to British merchants themselves, who have awakened in recent years to the need of vigorous action if their hold on Canadian markets was to be maintained.

The geographical position of Canada, it is obvious, is a severe handicap to British manufacturers and a corresponding advantage to United States merchants. There is also what, perhaps, is too often overlooked here—the immense advantage given to the States by the approximation of social and economic conditions in the two countries. To so great an extent is this the fact that the manufacturers of the States can regard the Dominion as being in many of its requirements merely an extension of the home market and as not needing specialized lines or methods of production such as our manufacturers would in many cases have to undertake before they could hope to compete on equal terms. The big point in our own favor consists in the fact that we are Canada's principal customer, with the result that there is always a large tonnage moving eastward and providing comparatively low freights for return business. Then we have the preferential tariff and that wider preference in good will which arises from our political connection and our ties of blood.

CANADIAN DEVELOPMENT ALONG AMERICAN LINES.

From the report direct the following paragraphs are extracted as of special interest:

The example and progress of a powerful people, only separated from them by an imaginary line 3,000 miles in length, naturally engages the attention and affects the trade policy of Canada. They have watched the phenomonal growth of their neighbors in population, industry, and wealth under climatic and social conditions very similar to their own. They greatly desire similar development in their own country, and the large majority believe it can best be obtained upon lines of policy similar to those which prevail in the United States. While they can not hope for a long time to satisfy home requirements by their own production, they intend to be a manufacturing people; and this fact must be borne constantly in mind, even although it appears probable that the growth of production in Canada will not for many years be equal in rate to the increase in the demand for manufactured goods.

A considerable amount of goods reaches Canada in bond in winter through the United States ports of New York, Boston, Baltimore, and Portland. An effort has been made on behalf of the ports of St. John and Halifax to restrict the preferential treatment of British goods to imports landed at Canadian ports (i. e., Halifax and St. John alone in winter). Canadian ministers appear inclined to regard the proposal favorably, but desire to delay its application until 1911, when the completion of the Grand Trunk Pacific Railway is expected. It may be pointed out that custom-house figures for goods landed at these two eastern ports in 1906 show a value of $15,097,477, while the value of goods reaching Canada through United States ports in that year was $25,936,120. This can be largely accounted for by the greater expedition with which, under existing circumstances, freight can be carried by way of the United States, the distance by rail to Toronto from New York being 515 miles, and from Halifax 1,089 miles.

THE CANADIAN TARIFF.

The present preferential treatment of British goods was inaugurated by the Canadian government in April, 1897, when a reduction of one-eighth of the general rate of duty was granted to all goods (with a few exceptions, of which alcoholic liquors and tobacco were the chief) when produced by and imported direct from countries whose customs tariffs gave Canadian produce treatment as favorable as that accorded by Canada to their produce. In July of the following year the preference was increased to one-fourth, and in the following month (August, 1898) it was restricted to similar goods produced in and imported from the United Kingdom and certain of the British possessions. These latter now include India, South Africa, New Zealand, West Indies, British Guiana, the Bermudas, the Straits Settlements, and Ceylon. From July, 1900, the preference was increased from 25 to 33⅓ per cent, and was continued for four years, when a number of changes were made, the preference being reduced in certain cases (notably woolen goods) and increased in others, as, for example, china tableware. This policy was elaborated and completed by a new tariff which came into force provisionally at the end of November, 1906, and was definitely established in March, 1907. The preference varies from 2½ to 15 per cent ad valorem, the rebate on many of the articles being 10 per cent ad valorem. On some articles, such as certain rolled bars, sheets, plates, etc., certain tubing, and crucible cast steel wire on which the general duties are about 5 to 10 per cent ad valorem, the preference is a rebate of the whole duty, but, on the other hand, various other articles, such as malt, malt extracts, spirits, varnishes and lacquers, skelp iron or steel, sail twine and canvas, and machinery not made in Canada for carding, spinning, weaving, braiding, or knitting, are no longer accorded preferential treatment. On the whole, the British preferential rates are on an average about 30 per cent less than those of the general tariff.

CONSULAR REPRESENTATION AND REPORTS—GENERAL CONCLUSIONS.

The most important commercial service in Canada is that of the United States, both in number of persons employed and in the service rendered. The issue of Daily and Monthly Consular and Trade Reports of the Department of Commerce and Labor, Bureau of Manufactures, at Washington, dealing not only with Canada, but with every conceivable economic subject all the world over, is an admirable undertaking, and is without doubt of very great assistance to the extremely alert American who avails himself very fully of the valuable information afforded.

Much could be done to promote British trade with the Dominion by the promotion of rapid and cheap transit and communication between the United Kingdom and Canada, more careful study of Canadian conditions by British traders, improvements in the representation of British merchants and manufacturers in Canada, greater adaptibility and exactness in meeting the wishes of Canadian buyers, the adoption of Canadian standards, weights and measures, and currency for specifications and price quotations, better advertising and catalogues and cheaper postage rates, and more elasticity in terms of credit (rendered possible by fuller knowledge of local circumstances). It is highly desirable to promote mutual knowledge of commercial and industrial conditions by a system of British commercial correspondents in Canada and the wider distribution of commercial and trade reports.

Extracts from the reports of Special Agent Charles Pepper, of the Department of Commerce and Labor, fill considerable space in this Board of Trade Blue Book.

DEVELOPING COLONIAL TRADE.

MOVEMENT TO PROTECT AND INCREASE COMMERCE WITH POSSESSIONS.

Consul Frank W. Mahin, of Nottingham, advises that altered conditions of the markets in Canada, Australia, and New Zealand, through the adoption of new import duties, have led the Manufacturers' Association of Great Britain to take what is considered an important step toward conserving and developing the trade with those colonies.

This is the appointment of the association's secretary, an expert in commercial matters, as a commissioner to make inquiry and report upon the extent and possibilities of the colonial markets with a view to increasing the British export trade and possibly to establishing branch factories behind the tariffs; also, upon the extent and condition of local industries, the nature and extent of foreign competition, transport services, with special reference to shipping "rings" and "conferences," the operation of local tariffs, and the probable effects of preferences. A Nottingham newspaper says:

> It is understood that the secretary will also make representations direct to the Australian government with a view to securing further reductions on various items of the tariff, and increased preference in favor of British manufacturers, before the bill receives the approval of the Senate; and he will also discuss with representatives of the various governments a number of questions, such as methods of assessing and collecting customs duties, the fiscal treatment of catalogues of British manufacturers, the extent of encouragement that will be given to British manufacturers establishing branch factories, and many other matters, a clear understanding of which will greatly facilitate trade within the Empire.

While increased colonial tariff duties are the immediate cause of this action, there has been a growing feeling for several years in this country that something must be done to protect Great Britain's trade with her colonies in view of the aggressiveness of certain other countries in developing competitive trade with them.

AGRICULTURAL IMPLEMENTS AND MACHINES.

DEMAND FOR VARIOUS MECHANISMS IN HOME AND FOREIGN FIELDS.

A Glasgow Herald review forwarded by Vice-Consul Middleton contains the following information in regard to the manufacture and markets for agricultural machinery:

> The year 1907 has been quite an uneventful year in the agricultural implement trade. Makers of all classes of machinery have been fairly well employed, but the increased prices of coal, iron, and steel, and all kinds of raw material, have reduced profits owing to there being no corresponding increase in prices of finished machines. Makers of plows, cultivating machines, seed sowing, and harvesting machinery, also thrashing-machine makers, have all had an average year's trade. A special feature of this year was the brisk demand for potato diggers, owing to the late season. The demand for oil engines as a farm motive power goes on increasing, and has attracted the attention of the Americans, and

2 large firms from that country are making special efforts to secure a share of the British trade, but the much superior make and finish of the British-made engine will enable home makers to retain the great bulk of this business. There is nothing new to report in regard to foreign trade, only India is beginning to increase its orders for agricultural machinery.

LONDON'S SHIPMENTS TO AMERICA.

NEARLY NINETY MILLION DOLLARS WORTH FORWARDED LAST YEAR.

Consul-General Wynne sends the following statement showing the value of the declared exports from the consular district of London to the United States during the year ended December 31, 1907:

Articles.	Value.	Articles.	Value.
Animals	$445,756	Leather	$911,679
Antimony	408,725	Linens	52,662
Bags and bagging	77,785	Linseed	47,360
Beer, ale, and stout	835,698	Mica	279,988
Books	2,505,102	Musical instruments	25,719
Bristles	750,021	Mustard	393,518
Brushes, tooth and hair	147,517	Oils	1,761,483
Burlaps	60,463	Ores, iron, etc	51,081
Carpets	187,267	Paper, paperhangings, and stock	1,183,698
Cement	940,202	Perfumery	87,318
Chalk	82,163	Pitch and tar	44,223
Clocks and watches	100,883	Plumbago	11,316
Cocoa and chocolate	413,680	Precious stones	8,387,141
Coffee	89,366	Preserves, pickles, etc	916,965
Colors, paints, and varnish	281,402	Provisions: Bacon, cheese, etc	586,625
Confectionery	70,151	Rice	492,321
Copper	908,651	Rubber, and manufactures of:	
Cotton, manufactures of	601,748	Raw	924,305
Drugs and chemicals:		Manufactures	508,002
Acids	309,805	Saddlery	136,273
Bismuth	183,261	Scientific instruments, etc	172,368
Coal-tar products	555,368	Seeds, plants, etc	1,128,502
Opium	821,666	Shellac	297,821
Quinine	49,868	Shells	950,972
Sodas	61,121	Silk	438,804
All other	2,076,514	Soap	246,636
Electrical apparatus, etc	196,480	Skins, furs, etc	11,541,232
Emery	58,140	Spices	254,814
Feathers	2,517,098	Sponges	70,295
Floor cloth	846,420	Stationery	938,835
Fruits, nuts, and vegetables	251,908	Sticks and canes	46,713
Fuller's earth	100,892	Straw plait, braid, etc	405,980
Furniture	820,905	Stuff goods	46,142
Glass, china, etc	217,058	Stone, marble, etc	37,490
Gloves, hosiery, etc	816,262	Tea	2,449,970
Glue and gelatin	134,360	Tin	17,559,806
Grease	332,7[illegible]6	Tobacco and cigarettes	159,206
Gums	814,820	Wearing apparel	194,845
Hair, cow, calf, etc	465,242	Wines and spirits	1,193,565
Hats and caps	213,849	Woods	345,590
Hemp, flax, and tow	1,089,111	Wool and camel and goat hair	4,025,677
Indigo	134,512	Woolen and worsted goods	1,745,217
Iron and steel, manufactures of:		Works of art	1,250,154
Cutlery	12,527	All other articles	1,167,406
Cycles	8,966		
Hardware	25,534	Total	89,074,433
Machinery	735,957		
All other, including metals	2,759,569	Gold coin	150,594
Laces	88,718	Grand total	89,225,027

TRADE OF SWANSEA.

DOCK FACILITIES AND DIRECT IMPORTS FROM THE UNITED STATES.

Consul Jesse H. Johnson furnishes the following information concerning American trade in the Swansea district of Wales, and how the same can be increased by direct exports thereto:

The question of direct imports is now largely engaging the attention of the port authorities of Swansea, and the exceptional advantages that will be offered therefor when the huge new dock will be completed early in 1908 has been brought to the attention of British steamship companies, who are giving the matter proper attention. This great improvement will favor American exporters, as compared with their European competitors. Generally speaking, the people of this country are favorably inclined toward American products. Large quantities of American boots and shoes are now sold here, and, with proper attention, the trade could be very largely increased. Canned meats, canned corn, and preserved fruits, bearing well-known brands and reliable trade-marks, are in favor, and frozen meat is in great demand, stores for its sale being opened in all parts of the city. The imports of American cereals into Swansea in 1906 amounted to 7,500 tons, not including the indirect imports brought in from London and Liverpool by rail, for even goods now shipped from the United States at a delivered price in south Wales come here in this way.

The attention of American exporters is directed to the fact that shipments of grain have arrived here in a heated condition, so that the matter may be corrected, for it is most important that all such shipments should arrive here and elsewhere in good condition.

The total direct imports into Swansea from all countries during the ten months ended October 31, 1907, amounted to 750,000 tons, and the exports during the same months to 3,970,495 tons, of which tin plates amounted to about 20,000 tons. The number of vessels entering the port in 1907 is on the increase, and is likely to exceed the entrances in 1906, which amounted to 5,384.

CANADA.

INCREASED CONSUMPTION OF AMERICAN AND BRITISH PRODUCTS.

According to Canadian official returns, the value of the imports into the Dominion of Canada for the six months ended September 30, 1905, 1906, and 1907, was as follows, coin and bullion not included:

Description.	Imported from—			Total.
	United States.	United Kingdom.	All other countries.	
1905.				
Dutiable goods	$43,067,209	$25,376,207	$15,643,927	$84,087,433
Free goods	39,077,469	8,208,431	6,270,609	53,556,509
Total	82,144,768	33,584,638	21,914,536	137,643,942
1906.				
Dutiable goods	51,661,945	29,749,711	15,448,000	96,859,650
Free goods	41,817,427	9,561,834	7,401,456	58,780,717
Total	93,479,372	39,311,545	22,849,456	155,640,373
1907.				
Dutiable goods	60,619,525	38,122,202	18,682,129	117,423,856
Free goods	51,721,533	13,815,716	8,184,733	73,721,982
Total	112,341,058	51,937,918	26,866,862	191,145,838

The value of the imports under the head of "All other countries" were as follows in the 1907 period: From British possessions, West Indies, Australasia, and Newfoundland, chiefly,

$8,047,778; France, $5,235,771; Germany, $4,463,492; Belgium, $1,405,972; Switzerland, $1,239,454; Japan, $1,074,306; all other countries, $5,400,089.

COMPARISON OF PRINCIPAL IMPORTS.

The principal Canadian imports showing any marked changes in the six months ended September 30, 1907, as compared with 1906, were as follows:

Articles.	1906.			1907.		
	United States.	United Kingdom.	All other countries.	United States.	United Kingdom.	All other countries.
Carriages, carts, wagons, etc	$1,298,248	$138,589	$73,172	$1,671,508	$154,265	$119,309
Cotton manufactures	1,467,431	3,534,061	534,331	1,406,712	5,814,356	862,526
Drugs, chemicals, and medicines	2,388,682	1,102,243	635,489	3,037,949	1,162,107	659,404
Earthen, china, and glass ware	141,858	592,612	267,717	128,577	660,007	357,910
Electric apparatus	1,611,087	43,186	19,523	1,745,115	29,380	30,140
Fruit, green and preserved	2,938,107	146,803	587,081	3,531,902	306,667	675,448
Leather	503,289	254,473	35,773	568,661	434,150	45,304
Boots and shoes	725,636	54,101	757	782,238	78,712	2,931
Iron and steel, and manufactures of:						
Agricultural implements	1,279,197	28,579	294	1,096,795	20,791	1,290
Bar, rolled, bundles, rods, etc	742,122	369,832	23,042	1,065,568	488,758	17,613
Engines—						
Locomotives	109,186			964,561		
Other, and boilers	604,708	124,853	232	758,300	122,848	5,485
Machines and machinery	5,877,942	261,989	87,482	7,621,673	575,496	97,108
Rolled, angles, tees, beams, etc	959,980	462,399	229,655	1,144,538	525,448	186,430
Tools and implements	765,046	53,775	83,577	753,535	72,531	35,547
Wire	1,292,416	234,053	84,283	1,324,793	634,144	112,201
All other	11,344,596	4,092,087	472,232	12,029,847	6,895,333	652,499
Total iron and steel	22,975,193	5,628,467	930,797	26,759,605	8,835,289	1,108,173
Oils, of all sorts	1,407,604	216,594	97,075	1,751,420	228,245	129,585
Paints and colors	344,928	374,605	87,407	312,737	574,628	122,455
Paper, and manufactures of	1,247,324	354,611	1[illegible],631	1,504,750	525,050	178,482
Silk and silk goods	309,422	992,107	9[illegible],487	442,142	1,308,485	1,254,402
Spirits, wines, and beer	231,242	662,747	798,485	313,517	811,711	943,366
Tobacco, and manufactures of	1,574,601	76,556	301,793	1,789,361	109,555	251,026
Watches and clocks	473,043	18,643	126,393	548,517	24,207	169,156
Wood, and manufactures of	4,765,752	69,100	173,648	7,533,761	118,722	147,782
Woolen goods	289,013	7,955,148	1,222,301	360,475	9,681,419	1,559,810

MEXICO.

MARKET FOR AMERICAN GOODS.

IMPORTANCE OF PRESENT TRADE AND OPPORTUNITIES FOR EXTENSION.

Special Agent Arthur B. Butman, writing from Mexico City, presents facts concerning the importance of the trade of the United States with the Republic in iron and steel products, agricultural implements, automobiles, furniture, housefurnishing goods, and several other lines, and suggests additional articles which could be marketed. Mr. Butman's report is as follows:

The aggregate exportations of iron and steel and their manufactures from the United States into Mexico for the fiscal years ended June 30, 1905–1907, have shown a constant increase, particularly those of machinery, thus evidencing the demands of the Republic's markets in these lines. The figures are as follows:

Description.	1905.	1906.	1907.
Bar iron	$70,173	$177,156	$129,883
Bars or rods of steel	47,603	84,244	134,778
Steel rails for railways	877,031	1,280,682	1,155,153
Structural iron and steel	504,662	452,686	822,806
Wire	537,464	565,969	664,475
Builders' hardware, saws, and tools	825,880	1,142.995	1,137,260
Castings	139,951	218,607	222,240
Firearms	132,651	262,468	267,229
Machinery, machines, and parts of:			
Electrical machinery	925,065	974,248	1,241,546
Metal-working machinery	28,225	69,129	80,693
Pumps and pumping machinery	659,288	1,054,965	1,144,069
Sewing machines	558,123	696,548	779,647
Steam engines—			
Locomotives	368,126	466,536	1,235,836
All other	434,826	663,525	630,809
Typewriting machines	268,718	348,072	872,858
All other machinery, etc	2,844,415	4,090,014	5,802,957
Nails and spikes	175,471	168,822	298,477
Pipes and fittings	834,573	1,588,227	1,259,740
All other manufactures	2,067,428	3,538,721	4,148,197
Total	12,299,673	17,843,609	21,528,653

IRON AND STEEL MILLS—SUGAR MACHINERY.

In spite of the fact that the mining, sugar, and other industries, with their enormous demands for machinery equipment, are of so great consequence to Mexico, but one important iron and steel manufactory exists in the Republic. The requirements of her industries must therefore be principally met by foreign manufacturers. The steel mill referred to is situated in the city of Monterey. The company has a paid-up capital of $10,000,000 Mexican, principally held by Mexican capitalists. The various kinds of steel work, rails, and structural products comprise the output of that plant. Several iron works of greater or less importance using scrap or pig iron are to be found in different parts of the Republic, two of which are situated in Mexico City, one an American, the other a British firm. I am authoritively informed that American capitalists have recently purchased a large iron property near the town of Santa Ana, in the State of Jalisco, and will construct an iron and steel plant, which will be the second of importance in Mexico.

As regards sugar machinery, I find the general sentiment, both among the importers and planters, to be in favor of machinery of British manufacture. In an endeavor to learn the causes for this preference the following reasons were invariably given: First, it is claimed that machinery of British, especially Scotch, origin is better built; that is, heavier and stronger than the American. There is a difference of about 15 per cent in cost in favor of the American product, but the planter considers this difference in price of no account when a breakdown may mean the loss of several thousands of dollars, even though repairs be effected in a comparatively short space of time, as the crushing season may be over before the mill is again in proper working order. Second, the British manufacturer ships promptly if he so promises, while the American promises all that is required, but as to fulfillment apparently follows his inclination.

PREFERENCE FOR EUROPEAN MAKES.

The testimony of an American consulting engineer, constructor of sugar centrals and himself an owner of a sugar plantation, has been many times verified to me by like statements from other sources and is worthy of serious consideration. The gist of numerous interviews with this gentleman follows:

> As regards construction materials, none better are made than the American. We employ materials of American manufacture in construction, I might say, without exception. Possibly, however, when the plantation is controlled by English capital and a personal preference exists, in such rare instances we have used materials of British origin. For some years I held interests with a well-known sugar-making machinery firm in the United States and used this machinery in equipment of centrals, but the frequent losses by breakdowns which occurred, and the lack of satisfaction rendered by the manufacturers when such cases were again and again reported, influenced—I might say compelled—me to abandon the use of American sugar-making machinery and of course to forego all personal profits which accrued from the same. We now install British machinery altogether, both in Mexico and Cuba. Our method is to undertake no contract unless the same may be personally held until after the first pressing. In this way I am satisfied as to the workings of the plant. It is not that the American machine builders can not turn out machinery of proper weight and construction, but that they evidently either do not realize that defects exist or else are unwilling to take the time and trouble for remedying the same.

The importation of improved sugar-making machinery into Mexico has increased largely during the past few years, and every indication points to still greater increase in the immediate future. While it is true that the manufacturers in the United States hold a good amount of this trade, it is also obvious that they can not afford to continue to ignore expressed requirements regarding the same, as proved by the signs of the times in a growing preference for this class of machinery of British manufacture.

AMERICAN TRADE INJURED BY DELAYED SHIPMENT.

Referring again to the matter of delivery, prompt shipment should be made if it is guaranteed at the time of purchase. To promise such for the sake of securing an order when the manufacturer probably realizes that fulfillment is impossible not only results in the final loss of the customer, but works no end of detriment to American trade as a whole. I am informed by the head of the largest importing house of mining and sugar machinery in Mexico that the carelessness of most American machinery exporters with whom he has to deal is in this respect proverbial. At one time orders for sugar-making machinery were placed by this house with three firms in the United States (one each in St. Louis, Cincinnati, and Birmingham), in each instance shipment being promised as required. The machinery did not arrive from any as agreed, and the house stood to lose $200,000 gold for noncompletion of contracts. Only after the dispatch of a personal representative to the United States and attendant expenses amounting to $2,000 was shipment effected in time for promised completion of the contracts.

The same house was also solicited to act as agent for a well-known scale manufacturing firm in the United States. The agency was undertaken and one carload of scales ordered to be shipped in sixty days, which time passed with a request for ninety days. Six months went by without the shipment being made, and at the end of eight months the order was canceled. Ninety days were required for correspondence and agency arrangements and filling of the order with other scale manufacturers. As a result the house was without scales in stock for nearly a year.

AGRICULTURAL IMPLEMENTS—OTHER METALLURGICAL PRODUCTS.

Agricultural implements of American manufacture control the market in Mexico, and as agriculture as an industry is constantly developing, this market affords a field of considerable promise. Patience and perseverance are requisite for increasing this trade. American agricultural implements of all descriptions may be found in the Republic, well-stocked agencies existing in the various localities. European goods are also to be found, and Canada is making great efforts to increase its sales.

The valuation of the exportations of American agricultural implements into Mexico for the fiscal years 1905–1907 was as follows:

Description.	1905.	1906.	1907.
Mowers and reapers, and parts of	$12,046	$22,099	$11,111
Plows and cultivators, and parts of	116,208	204,800	178,925
All other, and parts of	235,839	314,381	308,138
Total	364,093	541,280	498,174

The sewing-machine trade is thoroughly established with the United States, and American sewing machines enjoy a wide distribution throughout the Republic. The value of this trade has nearly doubled during the past six years, having increased from $356,434 in 1902, to $779,647 in 1907; thus placing Mexico as the third largest market for American sewing machines, the United Kingdom and Germany preceding this country. Sewing machines are placed in many homes on a small cash payment, the balance being paid in monthly installments.

Typewriting machines maintain a peculiar popularity, with constantly increasing sales. Most of the leading typewriter manufacturers are represented by local agencies, and the ground appears to be well covered. American cash registers have come into favor and are in general use, while the demand for American safes is on the increase, particularly for the fire-proof kind.

Mining machinery of all descriptions is in constant and increasing demand in this country and the market is practically held by the United States, with the United Kingdom, Germany, and France each supplying a small percentage. The requirements are well met by our manufacturers, though complaints of slow delivery are here again heard. In structural materials and power equipment the products of American manufacture are also preferred. American builders' hardware, saws, and edged tools are deservedly popular and control the market.

The American standard of threads for piping and tubes is the accepted standard in Mexico; consequently the English and Germans find it hard to compete, as buyers can not be influenced in favor of the standard threads of those countries.

The attention of American exporters should be given to the following facts regarding the classification of machinery: When goods specified in the tariff and shipped with machinery or industrial apparatus as accessories of the same are exported to Mexico in quantities which exceed the amount necessary for starting such machinery or apparatus, the corresponding customs duty will be applied on the excess. Also, when shipping machinery operated by hand power the fact of such operation should be stated in the invoice, as machinery of this kind is charged a higher rate of duty than that which is operated by steam, horse, or water power.

AUTOMOBILE TRADE—STYLES AND PRICES.

Mexico is rapidly advancing toward a leading position as a market for the American automobile. During the fiscal years 1906 and 1907 this Republic furnished the third largest market for American cars, being exceeded in importations only by the United Kingdom and Canada. The imports from the United States of automobiles and parts into Mexico for the fiscal years 1905–1907 show large increases, and were $119,986, $422,626, and $812,639, respectively. One reason for the growing popularity of the automobile is the number of new roads which have been constructed and are under construction. This applies not only to roads around Mexico City, but to some extent to the northern and western portions of the Republic as well.

The makers of high-grade cars have naturally found their best customers among the wealthy classes in Mexico City. In many instances the low-hung French or Italian car is preferred for city driving. It is stated, however, that the high-class American car has a good reputation for all-around work, and that sales of the same are constantly on the increase. Prices range from $2,000, to $20,000 Mexican, with a large demand for the medium-priced machine. Touring cars priced at $8,000 Mexican have sold well, but a car of this sort which could be sold at $6,000 Mexican would certainly prove popular and doubtless find a ready market. The automobile trade is about evenly divided between the touring and the closed-body car. Dealers state that a demand is being created for an American car of the runabout type, of from 10 horsepower upward.

HIGH-SPEED MACHINES—MARKET REQUIREMENTS.

The Mexican motorist enjoys machines of good speed. From 40 to 60 horsepower is the usual range, though some cars run as high as 90 and even 120 horsepower. The fuel generally used is gasoline.

While the low-hung, luxurious European-made cars enjoy a peculiar preference, the growing demand is for machines built on American lines, and the suggestion is made that in order to foster and maintain this sentiment it would be well for the American manufacturers to devote more minute attention to the fineness of the coach, not only that it be substantial, but luxurious, both in exterior finish and upholstery. A dealer in cars of French, Italian, German, and American manufacture states that while the European automobile undoubtedly excels the American in coach finish, the American is not surpassed in mechanism by European competitors. It may be said that the Mexican purchaser, especially the native, desires a car of more or less showy appearance. Light fancy colors of coach finish and upholstery are well liked. Club drab and onyx bronze are especially favored. There are about 650 licensed motor cars in Mexico City.

FURNITURE MARKET—EUROPEAN AND DOMESTIC COMPETITION.

The furniture market is one of promise. Goods of high grade are demanded by the trade, with oak as the favored wood. Roll-top desks, office filing cabinets, chairs, tables, bookcases, and bedroom furniture of this wood find ready sales. Bent-wood furniture of Austrian make is found in competition. In American office furniture especially this market affords opportunities for large sales. In upholstered goods those of European manufacture have long held the trade. There is practically no middle class in Mexico. The peons are too poor to buy luxuries, and the wealthy classes, accustomed to the artistic designs of European makers, have hitherto regarded American furniture of the upholstered sort as too severe in style. We have, however, succeeded in inserting the entering wedge and may hope to obtain considerable trade in time. Exports of furniture from the United States into Mexico have gradually increased from $560,774 in 1902 to $944,169 in 1907.

As regards domestic competition in this line it may be stated that of factories devoted to the manufacture of furniture but four of importance exist in the Republic, three of which are situated in Mexico City. The equipment in each instance is modern and principally of American origin. Office, bedroom, and dining-room furniture comprise the output, in the making of which native oak and cedar are employed, together with oak, elm, and cottonwood imported from the United States. The largest factory employs 300 workmen. Ten hours constitute the day's labor, with a wage varying from 50 cents to $3 Mexican, according to ability and class of work. The output of this establishment is designed wholly upon American lines. [A catalogue printed in Spanish, showing styles and classes of goods manufactured, is on file in the Bureau of Manufactures.]

Metallic furniture of all kinds has long been in favor, the demand for such being naturally larger in the tropical portions of the Republic, where the exigencies of the climate necessitate rigorous measures to insure cleanliness.

In shipping furniture to this country from the United States the invoice should contain full details regarding the same—that is, shippers should state the kind of wood of which it is made, and, in the case of upholstered furniture, state also the kind of cloth, whether of cotton, wool, silk, or a mixture of these textiles. This instruction is in accordance with the provisions of the Mexican custom tariff and should be minutely followed.

GENERAL HOUSE-FURNISHING GOODS.

Grass carpets and rugs of Minnesota origin, manufactured from the wire grass growing on the American prairies, have recently been introduced. These carpets, designated as "Crex," have a good field here, being suited to the climatic and other conditions which obtain. For artistic effects and good wearing qualities these carpets should successfully compete with the well-known Japanese mattings.

American stoves and ranges seem likely to command a fair sale when the people grow accustomed to their use. To insure increased sales these goods must come within the buying power of the masses and should therefore be low priced. Even with this requisite the trade will undoubtedly prove of slow growth in remote districts. The exports of American stoves and ranges and their parts into Mexico in the fiscal year 1907 amounted to $114,580, and for 1906 to $111,728.

Mexico furnished a market for American woodenware to the extent of $23,090 in 1905, $60,756 in 1906, and $21,622 in 1907.

Sanitation is at present a much discussed question in Mexico, and the problem of its proper enforcement is gradually being solved by the principal municipalities. New sanitary laws of strict import have been passed, forcing upon housebuilders the purchase of sanitary appliances of all kinds. There is a good demand for these appliances and fittings, both metallic and porcelain, and every indication points to an increase of the trade.

Taken as a whole the present outlook for the American furniture trade and for house-furnishing goods in general, in this country, as stated by dealers in Mexico City, is a bright one.

Golf, baseball, and kindred sports are not foreign to the Mexican, and sporting goods of all kinds will find a good market here. Electric signs and electric novelties, for advertising purposes afford a good opening to American manufacturers of these goods.

MEXICAN PUBLICATIONS.

COMMERCIAL INFORMATION MADE A LEADING FEATURE BY GOVERNMENT.

Special Agent Butman also forwards the following abstract from a newspaper of Mexico City on the improvements recently made in the consular monthly of the Mexican Government:

> An important departure from old-established lines has been made by the foreign office in the interest of the commercial and industrial advancement of the country. Henceforth it will be within the reach of all students of commercial progress to obtain such data as will be useful to them and will serve to advance industrial interests, but which could formerly be secured only at great inconvenience.
>
> In the last appropriation asked for by the department of foreign relations, the subject was discussed of dividing the Mexican consular service into two departments, one of these departments to be devoted to strictly consular duties and the other to commercial considerations and the collection of data which will serve industrial interests in this country.
>
> As a result of this reform the department of foreign relations has made a complete change in the publication of the Boletin Oficial which it issues, and this change has become effective in the November number, which has just been issued. This publication is now and will continue to be divided into two parts. One of these will relate to all movements of the diplomatic and consular corps in the transaction of public duties, in which will be published all important documents and other business relative to this branch. The other part will be devoted exclusively to consular reports, including mercantile and industrial matter of the greatest importance and which hitherto has not been within the reach of the public. In order to further disseminate this information, subscriptions will be open to all commercial bodies and individuals interested in that matter.
>
> Under the new rulings of the department consular officers are obliged to make monthly and annual reports on topics of interest to commerce.
>
> The first number, which is now out, treats of several interesting and important subjects, among which is the review of commercial conditions as submitted by the Mexican consul-general in New York for the fiscal year 1906-7. Another interesting subject is introduced by the Mexican consul-general at Genoa on electricity as applied to the Simplon Railway. The consul-general in France also submits a comprehensive statement of European business and commercial relations, containing data of great value and interest.
>
> The move is an important and beneficial one, and will be greatly appreciated by business men and corporations.

TRADE IN HERMOSILLO.

CONSUMPTION OF AMERICAN PRODUCTS CONSTANTLY INCREASING.

Consul Louis Hostetter furnishes the following information concerning the commercial conditions prevailing in that portion of Sonora coming within the zone of the Hermosillo consulate:

I am pleased to report that there has been an improvement in the amount of merchandise coming into this district from the United States within the last two years, but there is no reason why the bulk of the merchandise used in Mexico should not come from our home markets. American shoes of the better quality are being imported in much larger quantities than before, also hats and furnishing goods. Hardware is making big strides and, outside of some shelf goods and enameled ware, almost all comes from the United States. There are good openings here for a furniture and wagon factory as well as for agricultural implements. There is great consumption of liquors in this country, most of which are imported from France, Spain, and Germany. Finer qualities of muslins, sheetings, ginghams, and dress goods are used to a great extent and, outside of the sheetings, are mostly brought from England; if American samples of the same goods were furnished I am sure it would help to induce buying from the United States. English and German merchants always send out very efficient drummers—people who not only speak the language, but are careful to cater to all demands of merchants; they ship, pack, bill, and mark everything according to directions, and several of the merchants here claim this is something they can not secure from the wholesalers of the United States. The trade of Mexico is constantly increasing and is certainly worth securing, and with very little effort on the part of Americans it can be secured.

LINES OF GOODS WHICH WOULD SELL WELL.

Made-to-order clothing, an experiment taken up by two of the merchants here for Chicago houses, has proved quite a success and in one instance, has resulted in the opening of an American furnishing goods store, carrying almost exclusively American made goods. American hats and the better class of American made shoes are sold in fair quantities. While American made collars and neckwear are sold, the majority of these goods come from France. American bleached and colored cottons, seersuckers, and the better class of ginghams should all find a market here. Denims and all styles of the finer percales and calicos are used a great deal, and should all come from the United States. I would be glad to distribute samples among the merchants here, and no trouble should be found in introducing such goods.

Cheap qualities of muslins, calicoes, denims, etc., are manufactured here, and the high duties would exclude all foreign goods of this class, but the finer qualities, for which there is ready sale, can not be made here.

Leather of all kinds, especially kid for shoes, glove, glazed, colored, and enameled, as well as shoe findings of all kinds, should find ready sale here, there being at least fifty shoe factories scattered throughout the State.

American groceries, especially canned goods, are not as well represented in the stores as they should be, and this can only be attributed to the fact that the representatives of other countries are always pushing and selling their goods wherever possible, while since I have been stationed at Hermosillo no traveler from an American grocery house has visited here. The Cananea, Yaqui River and Pacific Railroad to Alamos, just completed, will open up one of the richest sections of the State, both in mines and agriculture. A general manufacturing concern here [address filed at Bureau of Manufactures] is about to start woodworking factories for the manufacture of furniture and wagons and carriages.

POPULATION, TRADE, PRODUCTS, AND INDUSTRIES OF SONORA.

Consul Hostetter also funishes the following statistics for the State of Sonora, as given in the report of the retiring governor, Hon. Rafael Ysabel:

The State of Sonora has a population of 214,029, divided among the districts as follows: Alamos, 61,318; Ures, 26,191; Hermosillo, 24,510; Moctezuma, 22,104; Arispe, 17,955; Guaymas, 16,731; Magdalena, 16,082; Altar, 15,917; Sahuaripa, 13,181.

There are five railroads in the State: (1) The Sonora, from Nogales to Guaymas, 265 miles; (2) the Torres and Prietas, from Torres to Prietas, 12.4 miles; (3) the Nacozari, from Agua Preita to Nacozari, 77.7 miles; (4) the Cananea, Yaqui River and Pacific, from Naco to Cananea, 38.5 miles; (5) and the same road from Empalme to Buenavista, 132.4 miles. This last road, or branch, is building to Guadalajara, and is gradually opening to the markets of the world a very rich country in mines and agriculture.

The imports and exports of the State during the year 1906 were as follows:

Ports.	Imports.	Exports.	Ports	Imports.	Exports.
Nogales	$3,045,812	$3,468,372	Guaymas	$571,710	$20,888
La Morita or Naco	2,713,433	2,465,412			
Agua Prieta	548,515	1,407,867	Total	6,879,470	7,362,539

The nationality of the vessels entering the ports of the State, and the freight brought thereby, in metric tons, were as follows: American, 36,959; British, 15,895; German, 2,252; Russian, 2,005; French, Norwegian, and Mexican, 1,705. Total, 58,714 tons.

Mining is the chief industry of the State. Irrespective of the hundreds of small companies, the mines were operated during the year by 122 large companies, of which 96 were American. The total output of the mines is about $12,250,000 per annum.

Among the other industries of the State are flour mills, shoe factories, tanneries, shirt and overall factories, a cotton mill and brewery, a packing house, bakeries, etc. According to returns made to the tax assessors, which the governor says were at least 50 per cent below the actual business done, the total output of these other than mining industries amounted to $3,597,000. The lumber cut and sold amounted to $1,080,000, and consisted of Brazil, oak, and torote chiefly.

There are 187 schools in the State, presided over by 341 teachers, with an attendance of 10,804 pupils. The cost of the schools is $124,000 per annum.

GLASS PRODUCTS.

SHARE OF UNITED STATES IN THE TRADE—IMPORT DUTIES.

Consul-General A. L. M. Gottschalk, of Mexico City, states that the kinds of glass most imported into Mexico from the United States are known as skylight and rolled glass. He adds:

Probably 75 per cent of the entire quantity of these two kinds of glass used in the Republic come from the United States. It is generally believed by the trade here that there should exist a local market for American plate, floor, and window glass. Generally speaking, all glass consumed in Mexico is imported, with the exception of a very common sort of window glass, which is made here. In the importation of glass, where breakage forms so great an item of expense to the importers, it would be to a decided advantage to import from the United States in carload lots, thus saving the handling incident to importations by sea. The Mexican customs regulations are not liberal in the matter of allowing rebates of duties for breakage except in cases where an entire box or package is discarded by the importer at the appraisal as "broken and useless."

The import duties upon glass into Mexico are levied by weight plus immediate and outer packing. Duties upon window, skylight, clear fancy, plate, and glass of one color are about 3½ cents per 2.2 pounds; on floor glass, 2 cents, and on glass of more than one color, 10 cents. On all of the above kinds of glass 2 per cent is added.

The importation into Mexico of glass and crystal worked, engraved, or cut, adorned with gold, silver, or color, mounted in ordinary metal, mounted in metal, gilt, or silvered, and of glass, plain, beveled, engraved, or decorated, and of glass flooring over 1 centimeter thick during the period from January to May, 1907, was as follows, the values being given in United States currency: From the United States, $141,431 worth; Germany, $96,093; France, $36,459; Belgium, $48,772; Austria-Hungary, $21,682; United Kingdom, $12,445; Italy, $1,598; Spain, $1,847; all other countries, $257, making a total of $360,584.

IMPORTANT TRADE AT MONTEREY.

THE UNITED STATES CONTROLS THE BULK OF THE IMPORTS.

Consul-General Philip C. Hanna writes that the trade in glass products in Monterey is now important compared with that of a few years ago. He adds:

The old-style Mexican dwelling houses here contained few glass windows, and the trade in window glass was insignificant. Six years ago there was scarcely a store in Monterey containing windows large enough for an ordinary display of goods, and plate-glass windows were entirely unknown. In recent years the city has greatly changed; all new dwelling houses, and many of the old ones which are being remodeled, are well supplied with window glass. Nearly all of the stores and shops of the principal streets have modern fronts with plate-glass show windows.

The most of the ordinary window glass comes from Belgium and Germany, and the annual sales represent a value of $40,000. Plate glass comes from the United States, the annual trade amounting to $5,000. The trade in lamps and tableware, etc., amounts to $60,000 per annum, nearly all being of American manufacture. In cut glass there is an annual business of $12,000, five-sixths of which comes from the United States. Fancy glass articles to the amount of $20,000 come from the United States, and $10,000 worth from Belgium and Germany. The importation of bottles for the use of brewing companies, etc., represents an annual value of $640,000, most of which comes from the United States, the balance from Germany. A large number of the bottles used by dealers in drugs and medicines come from the United States. [A list of the principal importers of various kinds of glass at Monterey is filed for reference in the Bureau of Manufactures.]

SALVADOR.

HOW TO SECURE NEW BUSINESS IN THE REPUBLIC.

Consul Samuel E. Magill, of San Salvador, furnishes the following information concerning the conditions governing the home and foreign trade of Salvador:

To secure new business in Salvador the article for sale must be of a kind that will appeal to the agricultural, mining, or household interests here. Catalogues and advertising matter in the English language are of little value; in the Spanish language they will serve as an introduction, which must be followed up by personal and persistent efforts on the part of agents.

There are no manufactures of consequence here; a foundry, repair shop, some sugar mills, and coffee washers cover the field of machine work. Salvador gets its income from coffee, chiefly, and other agricultural products, such as balsam and sugar, and buys in outside markets the manufactures which it consumes. In a small way, the local looms supply the rebolsa and mantilla, universally used here by women, but these are made in the homes and not in factories.

Of the 1,250,000 inhabitants of Salvador over four-fifths are Indians, whose needs are limited to cotton clothing, cheap straw hats, and coarse blankets. Shoes and underclothing are not worn by them. Their luxuries are tobacco, coffee, and alcohol, all local products.

WHOLESALE AND RETAIL TRADE.

The wholesale trade of Salvador is in the hands of foreigners—Americans, French, Germans, English, Spanish, and Italians—who, with central houses in San Salvador, and agencies in the more important cities of the Republic, have the trade well in hand, as most of them have been established for years, and understand and cater to the demands of the retail trade. The wholesale trade is supplied largely from the countries of origin of the owners of the stores—the French from Paris, the Germans from Hamburg, etc.—and only such purchases are made from other countries as can be supplied at less price and more conveniently. There are two large American houses which purchase in New York and San Francisco, all things being equal.

The retail trade, not long ago, was in the hands of natives but, within the last few years, Syrians, Armenians, Moors, and Turks have come in, and from peddlers with packs have graduated into the small shopkeepers, driving out the natives, and seriously affecting the local wholesale trade, as the Turks have their own foreign supply houses in Paris and London, from which they buy direct, frequently underselling the local wholesale merchant.

The meat, vegetables, and general market supply trade is in the hands of the natives, and these shops and market stalls are run by the women, who, as a whole, are far better traders than their husbands and brothers, also more industrious. Streams of women come into the market every morning from the suburbs with their daily stock of chickens, vegetables, etc., carried in baskets on their heads, returning at night to their distant homes.

HOW TO INCREASE AMERICAN TRADE.

The trade being thus settled along fixed lines, to break down the custom of years will require patient and persistent effort and honest endeavor to conform to the exact necessities of the local market as to styles, qualities, quantities, and time of payment.

Although Americans have, perhaps, all the trade with this country that their efforts entitle them to, trade with the United States will receive great impulse should a railroad ever be completed from this republic to a port on the Atlantic. This is in contemplation, and 50 miles of new track will do it, but that means crossing another country and using its seaport.

I am able to state that there are fewer complaints of faulty packing of American goods for this market than I have heard elsewhere, but there are some complaints as to the baling of piece goods. Shippers to this country should bear in mind that merchandise from New York and New Orleans must reach Colon in steamers, be transshipped to Panama by rail, then reloaded into steamers for a port of Salvador, where it is discharged into lighters, and from lighters on to docks, and again on to train or ox cart for delivery in San Salvador. These numerous handlings will spoil goods poorly packed, and a package once broken is at the mercy of thieves, who are on the alert everywhere to steal what they can. Stealing from broken packages has become so frequent and annoying here of late that the local government has taken careful steps to prevent suspicion resting on its employees, by noting condition of each package received by it at its fiscal docks. Recent published reports show a far less percentage of American packages so robbed than those from Europe.

As all duties are assessed by gross weight—including all package, both inside and outside—merchants must pack their shipments for this country as lightly as possible, consistent with the necessary strength.

EXPORTS TO THE UNITED STATES AND EUROPE.

From present indications, there will be a marked decrease in the value and quantity of products exported from Salvador to the United States, as shippers of hides and rubber have commenced to ship to Hamburg instead of to New York, claiming that better prices and quicker sales are secured in the former than in the latter port.

Coffee shipments to San Francisco will be less this season than in past years, as the crop is only about 50 per cent of that of last year. The market for Salvador coffee has been enlarged of late years, at the expense of former distributing points. Hamburg was the distributing port for northern Europe, and Havre and Marseille for Italy and Austria, but now the merchants of Sweden, Norway, Holland, Belgium, Genoa, and Trieste buy direct, thus saving on transportation charges and avoiding the commission and rehandling costs.

NICARAGUA.

LISTS OF BUYERS—SHORT-SIGHTED POLICY OF AMERICANS.

Consul José de Olivares, of Managua, submits a commercial directory covering western Nicaragua, which has been compiled by his consulate to supply the many demands constantly being received from American firms for lists of importers and dealers in that district. This directory may be copied by exporters at the Bureau of Manufactures. The consul also makes the following comments on trade in that region:

The United States has for years enjoyed a liberal share of the export trade to Nicaragua, and that this has not been greater is quite as much due to an absence of systematic, painstaking effort on the part of the average American exporter as to any lack of appreciation in this country of the superiority of American goods. As an example, it may be stated that few American shoes are exported to this district that are worthy of the high standard and fame to which that product has attained.

INJURY TO AMERICAN TRADE—CLEVER IMITATIONS.

The shoes of American manufacture ordinarily sold here are of the cheapest grade, such as are offered only to the poorest trade in the United States. Yet I have been shown bills from American houses for such shoes wherein local dealers are charged prices that would purchase a high-grade article in the United States market and which results in an inferior product being retailed here at figures corresponding to the most reliable makes.

Nothing could be more injurious to the reputation of American shoes in foreign markets than the attempt to substitute for export a quality of goods that would not be acceptable to the home trade.

While reliable American shoes are usually given preference over those manufactured in this country, it is a significant fact that the Latin-American tradesman is a clever imitator, and many of the native shoemakers hereabout are turning out facsimiles of the most approved styles in American footwear, made of American materials, and which are sold at much lower prices than shoes of inferior quality and appearance that unfortunately are exported by some manufacturers in the United States.

SHOE MATERIAL—DESIRABLE STYLES OF FOOTWEAR.

The extent of this local competition is shown by the Nicaraguan Government statistics, which show that in 1906 the importation into this consular district of American leather and findings for shoes amounted to $29,850, while the total importation of American shoes covering the same period is reported as amounting to only $3,093.

The kind of American shoes for men's wear that will find ready appreciation in this district are those of reliable materials and finish in calf and kid, both high and low cut, in black, enamel, and tan, such as may be retailed in this country at prices equivalent to from $4 to $5 American currency.

For ladies' and misses' wear the most salable shoes of American manufacture, should be of good workmanship and stylish appearance, in kid, high and low cut, black and russet, to be retailed here at an equivalent to from $3 to $4 American currency.

The following table, compiled from fiscal records, shows the principal lines and values of American exports to this district in 1906:

Articles.	Value.	Articles.	Value.
Textiles (principally miscellaneous cotton fabrics)	$138,514	Jewelry, chiefly plated goods	$10,390
Flour	119,552	Glassware	9,530
Drugs and druggists' supplies	68,125	Vehicles, miscellaneous	7,552
Hardware, miscellaneous	59,859	Agricultural implements	6,797
Machinery mining, etc	56,937	Rope	6,540
Barbed wire	49,320	Wines and liquors	6,389
Petroleum, raw and refined	40,607	Brass and copper goods, miscellaneous	6,141
Leather products and materials	38,774	Sewing machines	5,790
Tallow	31,952	Machetes	5,650
Paints and oils	22,233	Arms and ammunition, exclusive of war supplies	5,185
Groceries, chiefly fancy	19,068	Wooden ware, miscellaneous	3,035
Laundry soap	16,645		

The foregoing table does not represent the entire exports from the United States to this district during the period stated, the total of which amounted to $839,491. Conditions having resulted in unusually light purchases of foreign goods in 1906 and 1907, it would seem that the depleted stocks of general dealers throughout this section must necessitate a considerable increase in the import trade for 1908.

It is hoped that the consulate's commercial directory of importers and dealers of western Nicaragua will be of assistance in securing for American exporters a generous share of this prospective business.

COLOMBIA.

FIELD FOR HOLIDAY GOODS.

THE INTEREST IN FESTIVITIES AFFORDS OPPORTUNITIES FOR TRADE.

The holiday season in Cartagena, which begun with the celebration of the declaration of independence of Cartagena on November 11, and closed with the New Year anniversary, has given Consul Isaac A. Manning the following new ideas as to opportunities for the extension of American trade in Colombia:

The celebration of November 11 is after the fashion of the Mardi Gras in New Orleans, and during the days of the festival, which is extended from week to week, the streets are filled with a happy, pleasure-seeking, and jovial crowd of maskers. I have seen as high as 5,000 persons, mostly all masked, dancing in the streets in front of the governor's palace and about the Plaza de Bolivar, and keeping it up many nights successively.

Many of the costumes are imported from abroad especially for this occasion, and naturally all the masks are manufactured abroad. Most of them, as well as the costumes, were from Europe, but I do not see why American factories can not turn them out as cheaply and artistically as can the European. I am told that while the Cartagena festival is unique, yet that the mask is a favorite manner of enjoying many of the festivals of South America, and it would seem that the field was worth looking over.

CHRISTMAS PRESENTS, TOYS, AND CANDIES.

Another development of recent years in Cartagena is the celebration of the Christmas festival after the fashion of the Anglo-Saxon, with the Christmas tree and the giving of Christmas presents. In fact the family tree is becoming more and more common every year, and the supplying of the proper things for this festival is worth looking after. I noted several stores here well stocked with toys and fancy goods ordered especially for the Christmas holiday celebration, and a good business was done, notwithstanding the economic condition of the country. In fact, the indications are that the Anglo-Saxon habit of Christmas giving will continue to extend here, and our merchants and manufacturers should be ready to supply the demand for this line of goods.

In looking over the reports of imports into Cartagena, however, I find our exporters must be wasting their opportunities, for they are way down on the list. Germany, of course, the home of the toy makers, has the bulk of the trade so far, but Americans should do more of it than they do. During the year ending June 30, 1906, there was imported through the port here toys of all kinds, as follows:

From Germany, 1,257 kilos (kilo=2¼ pounds); France, 887 kilos; Italy, 313 kilos; and from the United States, 576 kilos, or about one-fourth of the whole amount.

During the ten months immediately following the year reported (ending April 30, 1907) Germany supplied to Colombia, through the port of Cartagena, 1,765 kilos of toys; England, 496 kilos; France, 320 kilos; while the United States sent this country through this port only 71 kilos of toys. It will thus be seen we were far behind our competitors in this matter. We were also behind England in supplying candies, caramels, creams, and sweet cakes, notwithstanding the American product can not be equaled.

The northern part of South America is a new field for the introduction and sale of all the products named, and one well worth looking after.

MAIL ORDER BUSINESS.

CUSTOMS DUTIES ON MERCHANDISE FORWARDED BY PARCELS POST.

Consul Manning furthermore suggests that there seems to be an excellent opportunity for mail-order houses in the United States to do a good business with Colombia under the parcels-post arrangement, which permits the shipment of a package weighing 5 kilos (11 pounds) through the mails. The consul adds:

As all the formality required in these cases is the attachment of a customs declaration by the shipper, stating contents and value, it is apparent that the only requisite for securing a certain amount of trade of this character is the placing of catalogues in the Spanish language in the hands of the proper people in the Republic. The Government has issued under date of October 19, 1907, the following new customs regulations for merchandise entered through the parcels post:

> By direction of the minister of the treasury liquidation of duties on merchandise arriving per parcels post at Colombian offices, shall be as follows: Precious stones of all kinds, jewelry of gold or silver plated with gold, with or without precious stones, and all articles of gold will pay an import duty of 10 per cent ad valorem, with a surtax of 10 per cent of the duty for consular charges. Other merchandise introduced by parcels post will pay 6 per cent ad valorem in addition to the regular duty fixed by the tariff code including the surtax of 70 per cent thereon, and a further surtax of 25 per cent for consular fees.

To hold this trade, once gained, however, American merchants should bear in mind the fact that the people of Colombia are up-to-date on styles and fashions, and will be satisfied with only what they may order, and not with "something just as good." Inattention to this point has been one of the great faults with our efforts to hold foreign trade. [A list of names of parties at Cartagena to which mail order publishing houses may send catalogues in Spanish, is filed with the Bureau of Manufactures.]

INTERIOR TRADE.

MERCANTILE OPPORTUNITIES IN THE BUCARAMANGAN REGION.

Consular Agent Gustave Volkman furnishes the following information about the Colombian city of Bucaramanga:

The rates on freight vary a great deal, according to the traffic in the Magdalena River. There are two rivers—the Lebrija and the Sogamoso. On the first small steam launches go to Estacion Santander, from where canoes of wood or steel take the goods to Puerto Santos. From there mules take them to Bucaramanga. A cargo (250 pounds in two bales) costs from the coast to Bucaramanga about $6 gold, and requires between fourteen to twenty days' time. A traveler can come in about ten days.

English engineers are working for a company established in London laying out the new railway line from Puerto Wilches to Bucaramanga. Very little machinery is used here, and only for hulling coffee and rice and crushing sugar cane. There is electric light in Bucaramanga and in San Gil. From the United States are imported petroleum, lard, flour, canned goods, provisions, oil, turpentine, fence wire, galvanized iron sheets, hardware, revolvers, cotton goods, stationery, drugs, cutlery, boots, and shoes. American prints are preferred here to Manchester in cotton goods, but this is not the case in white shirtings. [The names of the principal import and export houses of Bucaramanga are recorded with the Bureau of Manufactures. Mr. Volkman states that all of them import American goods and would be willing to open correspondence with American manufacturers with the view of introducing their goods.]

From Santander chiefly coffee of a fine grade is exported, a great deal of which goes to the United States, as well as hides, goatskins, rubber, horns, ivory nuts, and fique (sisal hemp). Bucaramanga is a nice, clean, healthy town, with about 26,000 inhabitants, situated on a plateau about 993 meters above sea level. It is surrounded with good coffee farms, and the population are hard-working people of good inclinations.

PERU.

GROWING AMERICAN TRADE.

INCREASING COMMERCIAL RELATIONS WITH THE UNITED STATES.

Minister Leslie Combs, of Lima, transmits the following translation of an article from El Comercio, of Lima, on the subject of trade between Peru and the United States:

If our foreign trade has acquired considerable development of late years, and has reached in 1906 the sum of $51,991,610, the progress of our special traffic with the United States has been no less intense.

In 1896, that is, ten years ago, the amount of this trade only reached $1,503,-325, of which $720,324 corresponded to the imports of Peru from, and $782,971 to the exports from Peru to that country, all this in accordance with the valuations performed by our customs-houses, which differ only slightly from the American calculations.

According to the data of our customs statistics for 1906, the value of American imports reached $5,393,206 and that of the exports $3,115,392, a total of $8,508,598, which demonstrates that this traffic has increased more than fivefold in ten years, and that it represents 10.37 per cent of the whole of our foreign trade. If we now examine separately the figures corresponding to the imports and exports, we see that in the last ten years the former have increased nearly eightfold and the latter more than fourfold. We are fully aware that the figures connected with the imports have been increased by the introduction of materials intended for the electric companies, and for the railways now being constructed. The value of the rails, bridges, and outfit alone for the line from Oroya to Cerro de Pasco represents many hundred thousand dollars, and we must also bear in mind that on account of the custom-house concessions granted in the United States to Cuban sugar, the shipments of the Peruvian article have not been of late years as large as they were in the former ones.

VALUE OF STEAMSHIP SERVICE.

This notable increase in the reciprocal trade with the United States is in a great measure due to the formation of the Merchants Line of steamers, which started fourteen years ago the direct voyages between New York and Peruvian ports on the Pacific Ocean. Up to that time the direct trade with Peru was only carried on by sailing ships, and it was hard work for American merchants and manufacturers to compete with those of Europe with such limited elements of transport. As soon as the steamers of the Merchants Line commenced their voyages a complete evolution was effected in that trade, and a period of gradual but constant progress began, because nothing contributes so much to the increase of commercial relations and business between two countries as an improvement in the means of communication.

Naturally our trade with the United States must acquire great importance as soon as the Panama Canal is finished, but in the meantime, we have every reason to hope that it will continue increasing, and that considerably, during the six or eight years which must lapse before that great work is concluded.

The symptoms which, in our opinion, foretell all this are various. The Merchants Line has just started a new direct line of steamers between New York and Mollendo, which is the principal port of the southern departments, and is also the route by which, thanks to the Puno Railway and the steamships on Lake Titicaca, the greatest part of the international trade of Bolivia is carried on, a circumstance which lends especial significance to that port, which is destined to acquire great importance as soon as the Southern Railway is extended to the rich and fertile beds of the River Madre de Dios, and from the moment when the regions of the eastern plains and those of the vast forests of Peru become united with the Pacific Ocean by means of lines of rails.

The establishment of this direct service for our trade with North America offers many advantages. Thanks to it, our importers now receive their orders with regularity, and are able to calculate when the steamers will arrive at Mollendo and at Callao, as soon as the cable announces the day of their departure from New York. The importers of American goods will now receive their orders in much less time than heretofore, and this circumstance, together with those previously mentioned, will allow American goods in future to compete with similar articles of European manufacture.

INCREASED TRADE ANTICIPATED.

By the new arrangements likewise all the trouble caused by the uncertainty regarding the time when the steamers would arrive will disappear. Formerly, owing to the irregular arrival of the steamers, goods frequently arrived here after the season appropriate for their sale had come and gone or when the market was loaded with similar goods—in neither case at the time when our merchants expected and wished to receive them—thus entailing frequently a considerable loss for the receivers of the goods, not only of interest, but also in the value of the merchandise.

Undoubtedly our merchants will appreciate and know how to take advantage of the greater facilities offered by the regularity of the direct voyages of the steamers of the new line for pushing ahead and increasing their business with the United States.

The steamers of the Merchants' Line will leave New York once every month, on a fixed date, and will cover the 9,600 miles between that port and Mollendo without touching anywhere, consequently avoiding the annoying delays caused by the exasperating slowness with which steamers are dispatched in some of the southern ports of this coast—delays which are highly prejudicial to the Peruvian trade.

For our part, we consider that the establishment of this new direct service will become an important and powerful element for the development of our trade with the United States. And we attribute just the same importance to the determination of the Red Cross Company to make direct voyages with their steamers, with fixed days of departure, between New York and Iquitos. The revenues derived from this river port, the commercial metropolis of the whole eastern region of Peru, are daily increasing, so much so that, as regards the amount of the custom-house duties it produces for the Government, it now occupies the second place among all the custom-houses of the Republic.

It is due to the creating of these two direct lines of steamers that we have become convinced that year by year the importance of the reciprocal trade between Peru and the United States will go on constantly and greatly increasing.

GLASS AND GLASSWARE.

BELGIUM SUPPLIES BULK OF TRADE—SHARE OF THE UNITED STATES.

Special Agent Charles M. Pepper, writing from Lima, December 12, 1907, furnishes the following brief report on the importation of glass into Peru:

Glass imports into Peru, while not heavy, are stable, and there is a steady if not a marked increase. The activity in building at Lima and Callao is adding somewhat to the demand for window and plate glass, and this market is pretty sure to be widened. The trade is distributed among a number of houses, of which some are importers of general merchandise and others handle only glass and glassware, the latter being retailers, who do most of the business.

The last year for which the figures are available was 1905, when the total importations amounted approximately to $150,000. At the present time they probably exceed $200,000. The classification under the Peruvian tariff is somewhat peculiar. According to it the importations during 1905 were as follows:

Plane or curved, unsilvered	$20,000
Plane or curved, silvered	15,000
Crystallized	13,000
Ordinary of all classes	14,200
Ordinary with metals or other materials	24,000
Common bottles	55,000
Total	141,200

Belgium had the bulk of the unsilvered glass, supplying $17,500 out of the total of $20,000, while the amount credited to the United States was $650. Germany held a similar advantageous position in the silvered article, her share being $10,000 and that of the United States $250. In the ordinary forms the United States made a better showing, the amount being $4,250 as against $6,600 from Germany. By weight, however, the importations from the United States were 75,730 kilograms and from Germany 71,120. In ordinary forms with metals or other materials Germany supplied $8,250 and the United States $5,600. Belgium shared in this trade to the amount of $3,350 and France $3,000. In supplying common bottles Germany had the lead with $22,650 and Belgium next with $18,500. The United States was in this trade to the limited extent of $350 and Great Britain to the amount of $8,600.

The Peruvian tariff on glass and glassware is 40 per cent ad valorem with some specified exceptions of minor importance. Common bottles are admitted free and at a rate of 10 per cent ad valorem according to the classification. The importations from Great Britain furnished the greater part of the dutiable list of this class.

The United States has lost some trade both in plate glass and in glassware because of bad packing.

BRAZIL.

A LARGE INCREASE IN BOTH IMPORTS AND EXPORTS.

The official figures for the foreign trade of Brazil during the nine months ended September 30, 1907, according to a report from Deputy Consul-General Joseph J. Slechta, of Rio de Janeiro, show a very healthy increase over the same period in previous years. He writes:

Imports have augmented in a steadily increasing proportion in each of the three quarters of the year, while the amount of exports, though showing an increase for the whole period that is notable, shows a decrease in the last quarter as compared with the same quarter in 1905 and 1906, and also as compared with the first half of the present year. The figures for nine months' periods are:

	1905.	1906.	1907.
Total imports	$101,183,324	$110,407,988	$143,221,846
Total exports	145,779,442	164,135,356	204,844,441
Excess of exports over imports	44,596,118	53,727,368	61,622,595

The increase in total exports of the past nine months over the same period in 1906 is 24.9 per cent, while the increase in the third quarter over the same three months last year is only about 2.2 per cent. The excess of exports over imports was greater by 22.7 per cent in the first nine months of 1906 than it was for the first three quarterly periods in the preceding year, while the increase for the same period this year was only 14.7 per cent over 1906. The big decrease in the last of the three quarters indicates that the figures for the year will show a much less favorable balance of trade than has been the case for many years. Exports of coffee and rubber during the last quarter of the year are certain to decrease considerably as compared with last year and with the third quarter. Since there is no indication that the volume of general imports is to be diminished during the rest of the year it is altogether probable that the actual increase of exports over imports will be less than in the preceding year.

The principal decrease in the exports of the third quarter as compared with the same period last year was in coffee and rubber. There was an increase in the exports of tobacco, cocoa, and cotton. A very large item in the continued large volume of imports is for machinery and construction materials used in the several important public improvement enterprises being pushed in various parts of the country. The temporary money stringency has apparently had no deterring effect upon plans for railway construction, street railway electrification in several of the cities, and harbor improvements in Rio Grande, Pernambuco, and Para, as well as in the Federal capital.

ECUADOR.

SMALL DEMAND FOR WINDOW AND PLATE GLASS.

Special Agent Charles M. Pepper, writing from Guayaquil, says that the consumption of window and plate glass in Ecuador is very small. He adds:

Guayaquil, with 70,000 inhabitants, has been described as a city without windowpanes. Scarcely a business house or a residence has window glass, shutters with slats being used and adjusted so as to allow the free circulation of the air and at the same time keep out the dust and rain. In the interior of the houses and shops, however, glass is used in partitioning the rooms. In Quito and other cities of the Andean plateaus where the climate is colder window and plate glass is used in the better class of residences and stores.

During the calendar year 1905 the importations of window and plate glass into Ecuador were as follows: From the United States, $2,250 worth; Germany, $12,000; Belgium, $4,500; France, $1,450, and the United Kingdom, $350.

VENEZUELA.

IMPORTATIONS OF MATCHES NOW ALLOWED BY THE GOVERNMENT.

Consul James W. Johnson, of Puerto Cabello, advises that on January 9, by order of President Castro, the contract between the Venezuelan Government and the National Match Manufacturing Company, under which the said company had a monopoly of the match-manufacturing industry of the country, was canceled. The importation of matches into the country will now be allowed, the tariff rate to be fixed at a later date.

JAMAICA.

EXTENSIVE PURCHASES OF FOREIGN FOODSTUFFS AND MATERIALS.

Consul F. Van Dyne, of Kingston, finds that for the six months ending September 30, 1907, the increase of imports into Jamaica has been even more marked than for the fiscal year ending March 31, 1907. He writes concerning the foreign trade as follows:

Figures obtained from the collector-general of the colony show large increases in the importations of the foodstuffs mentioned below, the larger portion of which come from the United States.

Of wheat flour, 43,242 more barrels were imported than during the corresponding half year of 1906, the total imports being 125,909 barrels. Of corn, 149,676 bushels were imported, against 95,804 bushels in the same period in 1906. The increase in imports of meal was 20,482 barrels, the total imports being 35,032 barrels. Of butter and substitutes, 93,342 pounds more were imported than in the 1906 half year, the aggregate of such imports being 518,439 pounds. Of cheese the increase was 29,283 pounds. Bread and biscuits recorded an increase of 722,732 pounds over the 1906 imports, the total sales being 2,427,142 pounds. The increase in imports of drinks was also marked, 145,291 gallons of ale, beer, and porter being imported in 1907, while only 77,669 gallons came in the 1906 period, and of whisky 5,772 gallons more were imported than in 1906.

While the rebuilding of Kingston has only just begun, there was a large increase in the importations of lumber and cement, 5,000,000 feet more of lumber coming in during the six months' period of 1907 than during the same period in 1906, the total imports for the 1907 period being 8,806,245 feet. The imports of cement increased from 5,920 barrels in 1906 to 33,187 in 1907.

DECREASED EXPORTS.

The severe drought which visited Jamaica during the latter part of 1906 and the first part of the present year caused a noticeable decrease in the exports of some of the principal staple products of the island. There were 11,427,467 bunches of bananas exported during the eight months ending November 30, 1907, against 12,434,856 for the corresponding period of 1906. During the same period 43,605 hundredweight of pimento were exported, against 56,709 for the 1906 period. Of cocoa, the exports were 8,827 hundredweight less; of rum, 37,559 gallons less, and of ginger, 1,809 hundredweight less.

The exports of sugar, cocoanuts, oranges, coffee, and dyewoods, however, show increases as follows: Sugar, 121 tons; cocoanuts, 4,433,101; oranges, 13,102,473; coffee, 10,871 hundredweight; dyewoods, 757 tons.

CUBA.

EXTENSION OF AMERICAN TRADE—SALESMEN SHOULD KNOW SPANISH.

Deputy Consul-General Henry P. Starrett, of Habana, contributes the following information regarding the sale of American goods in Cuba:

American manufacturers have taken profitable advantage of the fact that their products find a ready and continually increasing market in Cuba. This is the natural result of existing conditions, such as the reciprocity treaty with and Cuba's proximity to the United States and the fact that as there are practically no factories operated in Cuba, nearly all manufactured articles must be purchased abroad.

Most of the American goods sold in Cuba are handled through brokers or commission agents, the companies represented occasionally sending a salesman through the island to stimulate the trade. But unfortunately many of these salesmen do not speak Spanish, or have any knowledge of business conditions in Latin-American countries. Too much can not be said regarding the advisability of having bright American salesmen who can speak Spanish well. Such men could double the export business of the United States in a short time, provided their companies would properly handle the orders; and furthermore, the merchants in these countries appreciate the convenience of being able to talk to the salesman direct rather than through an interpreter.

PROPORTION OF AMERICAN GOODS PURCHASED.

With properly directed energy on the part of the American manufacturers and care as to invoicing, packing, and shipping goods, Cuba will unquestionably become a large factor in the American export business.

American goods stand high in the opinion of the Cuban people; in fact, if a Cuban is assured that an article which he desires to buy was manufactured in the United States he will give it preference to the same kind of an article manufactured in other countries.' Our manufacturers should strive to maintain this standard. The consumption of American products has increased year by year, as is shown by the following table:

Year.	Amount imported from United States.	Percentage of total imports.
1902	$25,243,200	41.7
1903	25,703,100	40.5
1904	32,928,700	42.7
1905	43,118,000	45.4

[The exports of American goods to Cuba for the first eleven months of 1907 amounted to $47,709,821, against $41,272,121 for the same period of 1906.—B. of M.]

CLASSES OF GOODS IMPORTED.

For the information of manufacturers and dealers a list of the principal articles and supplies imported into Cuba from the United States is appended:

Agricultural implements and machinery.
Automobiles.
Beer.
Bicycles.
Candles.
Canned goods.
Cattle.
Cement.
Chemicals.
Coal.
Cotton fabrics.
Confectionery.
Crate material.
Cream (condensed).
Dairy products.
Drugs.
Dry goods.
Fertilizer.
Furniture.
Glassware.
Grain products.
Groceries.
Hardware.
Horses and mules.
Leather and leather goods.
Lumber.
Machinery.
Milk (condensed).
Musical instruments.
Oils and grease.
Packing-house products.
Paper.
Paint products.
Pipe, iron, and sewer.
Potatoes.
Rails, steel.
Railway equipment (electric and steam).
Rubber products.
Saddlery.
Sewing machines.
Shoes.
Soap.
Starch.
Structural iron and steel.
Typewriters.
Vehicles (wagons and carriages).
Whisky.

A list of Habana merchants and agents handling these products is on file at the Bureau of Manufactures.

CHINA.

REVIEW OF TRADE CONDITIONS.

CUSTOMS RETURNS SHOW DECREASES—AMERICAN GOODS AFFECTED.

Vice-Consul Ernest Vollmer, of Tsingtau, under date of December 3, supplies the following review of the commercial conditions throughout China:

The report of the Imperial Chinese Maritime Customs for the third quarter of 1907 has just been published and contains some interesting information regarding the trade of China during that period. The third quarter of 1907 shows a decrease in customs receipts of about 10 per cent, or in coin some 900,000 taels (the customs tael on October 1 equaled 83.2 cents, but dropped in value and was worth 71.6 cents on January 1), as compared with the same period of the year 1906.

The heaviest losses in business as represented by these figures were at Shanghai and Tientsin. The decrease at Shanghai was some 950,000 taels, or about 29 per cent, while Tientsin figures show a 25 per cent decline, representing 250,000 taels. Notable increases in receipts are noticed at Hankow with 110,000 taels, or 16 per cent; Wuhu with 83,000 taels, or 83 per cent, and Canton with 45,000 taels, or 5 per cent. The increase in Hankow is caused mainly by importations of English shirtings and sheetings, as well as other cottons, while exports were also somewhat larger than before, due no doubt to rail connections to the north and interior. American petroleum shows a good gain in practically every port, counterbalanced by a large falling off of Sumatra and Borneo oil imports.

The unusual activity at Wuhu may be ascribed to the heavy rice exports to Japan, but the whole list of Yangtze ports show satisfactory gains over 1906. In the south matters are likewise somewhat improved, exports along certain lines having increased, while at Canton heavy imports of cottons are found. In the north matters are far worse, especially in Shanghai, where cotton importations have fallen off greatly, due it is claimed in a large extent to increased facilities for shipping direct to the far northern ports.

AMERICAN TEXTILE DECLINE—BUSINESS DEPRESSION IN THE NORTH.

To give a few specific examples it may be noted that American gray sheetings fell to 116,340 pieces, while in 1905 the imports were 2,643,330 pieces and in 1906 they were 1,097,110 pieces. American drills also show a heavy decline—59,608 pieces were imported during the quarter as against 1,038,485 during the year 1905 and 498,940 in 1906. Apparently European cottons did not suffer in like proportion. Indian yarns show a heavy decline.

The conditions at Tientsin are similar to those at Shanghai. Tairen (Dalny) appears on the Chinese reports for the first time. The imports through Newchwang, Tairen, and Antung are about the same as the imports through Newchwang in 1906 during the same period.

Business throughout the whole of north China has been getting steadily worse during the past few months and every class of merchant and trader is suffering. It is reported from Chefoo that among the native firms there were no less than 60 failures during the last few weeks, including 4 banks. In Newchwang the large firm of Tung Shung-he has failed for $2,500,000, in which amount the Russo-Chinese Bank is said to be interested to the amount of $650,000, the Bank of the Chinese Ministry of Finance for $200,000 and the Yokohama Specie Bank for the sum of $150,000. This one failure alone caused 40 others, all in Newchwang, while firms in other Chinese and Japanese ports were under financial stress.

As a result of the recent depreciation in the copper cash, current in this country, the Shantung Railway has raised the price of all native tickets 20 per cent, commencing in December, which is a drawback to trade.

It is interesting to note that Kiaochow (Tsingtau) is the one port of north China which does not show a large falling off in customs returns for the past quarter. Aniline and chemical indigo, cottons and woolens, and white and brown sugar, are the largest imports, but the total is only 152,088 taels duty as against 170,517 taels during the same period last year. Exports, on the other hand, show a decided increase for the period. Thus raw yellow silk shows a gain of some 120 per cent over the third quarter of 1906, 1,434 piculs being sent out as compared to 680 (picul = 133⅓ pounds). Straw braids totaled 1,710 piculs more than in 1906, having risen to 15,585 piculs. Other articles gained proportionally less, but the customs receipts for exports were 36,255 taels, against 25,724 during the previous year.

COMMERCE AT DALNY.

IMMEDIATE NECESSITY FOR AMERICAN TRADE REPRESENTATIVES.

The following report, covering the present conditions in Dalny, the opening there of a Chinese maritime custom-house, trade outlook, and the demands for American agents to promote sales, is furnished by Consul Roger S. Greene:

Statistics showing the trade of Dalny have been issued by the Chinese maritime customs for the first quarter of its existence that ended September 30, 1907. The report shows few imports of any great significance, the only considerable item being 30,982 pieces of Japanese sheetings and shirtings, scarcely any American cottons being imported. The effect of the establishment of the Chinese custom-house at this port has been to turn away trade which came here when free entry existed.

IMPORTS—EXPORTS—POPULATION.

While the imports for the September quarter, $4,275,513, were $993,962 in excess of those of the previous quarter, this excess was due to the imports of railway material and equipment for the Southern Manchuria Railway. The most striking decrease in imports occurred in cotton goods, which fell from $475,454 in the June quarter to $77,390 in the September quarter. Four-fifths of these cotton imports were from Japan. Flour, nearly all of which is American, fell to $121,353 from $217,236 during the June quarter. Kerosene shows a slight increase, the imports being 13,166 cases. Tobacco imports, nearly all from Japan, increased from $64,316 in the June quarter to $126,789. Cigarettes made of American tobacco are sold in considerable quantities, but much more could be sold, were the trade properly worked. The imports by countries during the September quarter, according to the customs returns, were as follows: United States, $1,349,852; Japan, $2,105,596; United Kingdom, $298,262; China, $259,857; Korea, $241,788; Hongkong, $20,148; total, $4,275,513.

In exports the trade of the port has experienced thus far little change, but the December quarter, when the new bean crop will come on the market, will show more clearly the portion of the export business deflected from Dalny to Newchwang.

The population of Dalny and the outlying village of Shokoshi, where the larger portion of the Chinese, for economic reasons, live, on September 30, 1907, numbered 29,654, of whom 14,290 were Chinese, 14,688 Japanese, and 46 "foreigners." On June 30, 1906, the population numbered only 19,645.

DALNY VS. NEWCHWANG.

Complaints are heard that business is very dull in Dalny. It is a fact that, outside of the supplying of the railway, business is on a small scale, so small that most foreign firms in general business in the East feel evidently that it would not pay them at present to open branches here, and they are probably right, to the extent that equal efforts elsewhere in China or Japan would perhaps produce better immediate results.

Newchwang has at present the very great advantage of being the old-established port of entry and depot for Manchuria, with a considerable Chinese mercantile population, and having an extensive system of waterways and two lines of railways—Chinese and Japanese now, apparently, actively competing—to connect Newchwang with the interior.

The Japanese line is now planning to extend its tracks a mile or more to a place on the river more convenient than the present Newchwang station for handling cargo.

Dalny has on her side the advantage of free communication with the outside world all the year round. It would seem that the future of Dalny, as a really great city, depends far more on an increased development and an increased population of the territory along the railway line than on the proportion of the existing trade that can be diverted to this port from other routes. This will take time and hard work, but I believe it will come.

NECESSITY FOR AMERICAN BUSINESS REPRESENTATIVES.

There are some points to be considered, at the risk of repetition, upon which I base my belief that it is desirable that American manufacturers and exporters should be represented here and as soon as possible. First, that the standard of living prevailing among the Japanese here is higher than in Japan. They receive larger wages and salaries for all grades, almost twice what they would get in Japan, and they can therefore purchase, and do so purchase, comparatively more expensive things. Moreover, the cold climate makes it necessary for them to live in houses somewhat after the European style, to say nothing of the real foreign houses left in the leased territory and all along the railway line. These houses require hardware and other fittings, which Japanese houses do not, and this makes it desirable, as well as convenient, that part of the furniture should be in foreign style. For instance, foreign iron beds are much used here by those who can afford them, and foreign dress is used by a very large number as the most convenient for work of all kinds.

There is thus a growing market for foreign-style goods, much of which is and will be supplied from Japan, but it must be remembered that Japanese goods do not enjoy here the protection which the tariff gives them at home, so that the difference in price between the article made abroad, which is usually superior in quality, and the Japanese-made article should not be so great as in Japan. It is a fact, however, that the numerous small Japanese dealers are not able to avail themselves fully of the duty-free importation privilege. They wish to get their goods in small quantities, often broken lots, as they need them, to save interest, and therefore they buy a great deal from wholesale merchants in Japan instead of importing direct, with the result that they, and eventually the consumers, have to pay the Japanese customs duty. There is a certain opening here for an agency which could save them this expense by getting goods direct from abroad.

AMERICAN GOODS WHICH COULD BE HANDLED.

The line that suggests itself first for such an undertaking is hardware, steel and iron goods, simple machines and tools for agriculture and other industries, electrical goods, and numerous small lines, such as provisions, clothing and men's furnishing supplies, household and office furniture, photographic supplies, cutlery, arms, bicycles, talking machines, novelties, and the chance, occasionally, to get an order for something really considerable, 'such as machinery for one of the numerous brick factories, or supplies for the public works department of the province, and even supplies for the railway. Then there is American flour sold here which might be handled, though there would be experienced Japanese and Chinese dealers to compete with.

Something might be done with cotton goods, in spite of the sharp competition of the Japanese article. If stocks could be kept it would of course be an advantage, though a risk also, but an experienced salesman could I believe pick up a surprising amount of small business simply by coming here well supplied with a large variety of catalogues and price list, and, knowing the articles he sells, far more can be done here in this way than elsewhere.

It would be also an advantage if such a man could come here as the representative of a well-known house, in order to command confidence, but willing to begin business on a small scale, and to work hard to develop it. The town in its present state probably could not support a house with a large expense account, but the foothold which a small house might get would, I believe, prove in the end to be well worth while.

PRESENT FAVORABLE CONDITIONS FOR AMERICAN TRADE.

I bring up this matter now because the time is particularly favorable. In the first place the railroad, though the principal supplies are already bought, will not be fully equipped, in its whole extent, for some time yet, which means the spending of considerable sums of money in Manchuria, not to speak of other probable and possible railway development.

In the second place, and most important of all, this port now enjoys direct freight connections with the Atlantic coast of the United States, as the supplying of such a large part of the railway material from the United States, aside from giving a certain impetus to American trade, has resulted in the establishing of a steamship line making frequent though irregular voyages from New York to Dalny. Thus other goods also bought in the United States can be sent here more quickly and conveniently, more cheaply, and with less risk of breakage and other loss than would be the case if transshipment at Kobe were necessary, as it otherwise would be. It is still uncertain whether these steamers can continue to come here after the railway supplies are all delivered.

At present, with this exception, the principal shipping connections of this port are with Japan, and for the most part goods coming from other countries must be transshipped in Japan. Some of the American goods also are still sent in this way, especially from the Pacific coast, whence sailings to this port are very infrequent, depending upon the condition of the flour trade. Even the great depots of Shanghai and Hongkong have no regular connections with Dalny. There exists therefore now an exceptional opportunity for the introduction of American goods, and if this opportunity is not seized at once it may be lost altogether.

As I have already indicated there will be keen competition to be faced, but I believe that the American merchant coming with the right spirit will be welcomed by the growing number of Japanese here, who feel that before Dalny can become a really great city it must become, to some extent, an international market.

IMPORTS BY ARTICLES.

The principal imports into Dalny during the quarter ended September 30, 1907, were as follows:

Articles.	Quantities.	Articles.	Quantities.
Cotton goods:		Metals—Continued.	
Shirting, gray, Japanese..pieces..	12,190	Wire nails and other iron and steel ....pounds..	48,000
Sheetings, white and gray.do....	18,791	Summaries:	
Blankets....................do....	5,817	Cement ....pounds..	647,267
All other, in pieces ....do....	2,981	Fish, fresh..................do....	373,467
Printed reversible cretonne ....yards..	14,760	Flour ....do....	385,323
Colored cloth, unclassified.do....	270,910	Fruits and vegetables, fresh.do....	624,200
Japanese cloth, imitation of native cloth ....yards..	109,285	Rice ....do....	3,059,310
All other, by the yard.....do....	2,891	Sake.........................do....	541,067
Yarn, Japanese and Indian ....pounds..	157,871	Bedsteads, beer, building materials, carriages, cigarettes, clothing, paper, etc............	969,620
Metals:			
Galvanized sheets, corrugated...............pounds..	261,383		

FUR TRADE OF MUKDEN.

MARKET CENTER OF NORTH MANCHURIA—AMERICAN AGENCY OPENING.

Deputy Consul-General George Marvin, of Mukden, has prepared the following report on the Manchurian fur trade:

Mukden has for many years been one of the three most important centers of the fur trade in China. Its geographical situation in the center of the three most northern fur-producing provinces, in former times the converging point of the chief cart roads of central Manchuria, and now the junction of four lines of railway, as well as its political and commercial importance as the seat of Manchurian government and the largest city in population, have combined to make it such a center.

In addition to this geographical and political importance, which makes the city a market for general trade, Mukden provides one of the best tanning and curing establishments in the East. Raw skins brought here from the north are dressed and cured in the 40 tanneries of Mukden, and in the local fur shops made ready not only for the local trade but also for transshipment to Tientsin and Shanghai, the chief fur markets south of Manchuria. A large part of the local fur-dealing industry consists, after the skins are tanned and cured, in assembling them in shapes and sizes corresponding to the Chinese short outside jacket or long coat. In the work of thus matching and combining skins the Chinese are very skillful.

GENERAL USE OF FURS BY NATIVES.

In winter throughout the cold latitudes of China the Chinese of all classes wear fur, wool, or hair lined garments. Even the cooly laborers have their sheep or goat skins and people of the middle and official classes have many sets of garments lined with the richest furs. In China houses are rarely heated to the winter temperatures of European or American interiors, and in consequence fur-lined clothes are worn indoors as well as out. Accordingly there is annually an enormous demand in Mukden for furs actually used by the native population or marketed by local retailers over the province.

As a distributing center for the fur trade Mukden is also important. Large shipments are made every winter to Shanghai via Newchwang, and smaller shipments to Tientsin, which depends chiefly for its supplies upon Mongolian fur districts. Buyers from the southern ports occasionally come to Mukden, but the chief trade is done either through agencies at the ports or by sale direct to the retailers there. Several Mukden fur dealers have expressed a desire to deal direct with foreign agents, but although buyers of European fur houses come now to Tientsin and Shanghai none as yet have tried to reach Mukden markets direct.

SOURCES OF SUPPLY.

The furs sold on the Mukden market come chiefly from the two more northern provinces of Kirin and Heilungchiang; of these there are more than ten different kinds. Tiger, leopard, wolf, white fox, and mountain badger come from Heilungchiang; yellow fox, gray squirrel, and other small species of animals from Sansing, Heilampo, and Ninguta, in the Province of Kirin. The Province of Shengking or Fengtien, of which Mukden is the capital, produces only mountain goat, deer, sheep, dog, and one or two other kinds of skins. Cat and dog skins are used extensively, and the latter are valued highly enough to justify the establishment at various places in the province of dog farms. From Mongolia come cow and sheep skins. Practically all of these furs and skins are imported into Mukden in the raw state and are tanned locally.

A table is appended showing the kinds of skins brought yearly into the Mukden market, their average numbers, and the most recent prices quoted for the present year:

Name of skins.		Number of skins.	Price per piece.
Tiger	pieces	100	$70.00 to $400.00
Leopard	do	100	20.00 to 60.00
Fox, red	do	20,000–25,000	10.00 to 30.00
Fox, white	do	100–200	20.00 to 50.00
Fox, silver	do	1,000–2,000	15.00 to 45.00
Fox tail	catties	30,000–40,000	[a].15 to .30
Sable	pieces	4,000–5,000	15.00 to 45.00
Wolf	do	1,000	6.00 to 20.00
Badger	do	500–1,000	2.00
Squirrel	do	30,000–40,000	.20 to .90
Squirrel tail	catties	3,000–4,000	[a]6.40
Goat	pieces	10,000–20,000	1.70 to 1.80
Sheep	do	30,000–40,000	.60 to 1.00
Dog	do	10,000	2.00 to 4.00
Lamb	do	20,000–30,000	.55
Calf hide, large	do	4,000–5,000	[a].60
Calf hide, small	do	4,000–5,000	[a]1.50
Sheep's wool	catties	50,000–60,000	[a].40

[a] Per catty. A catty=1⅓ pounds; a picul=133⅓ pounds.

These prices are, in many instances, between 15 and 20 per cent lower than similar quotations of a year ago. Owing to the poor harvest of the current year and the consequently limited purchasing power among the native population, the market has dropped to a point much nearer than formerly to a sound and reasonable basis.

QUALITIES—TRADE PROSPECTS.

Manchurian furs are by general consent of excellent quality. Tiger skins are much larger than the Bengal or Amoy pelts, and, on account of the more northern territory in which the animal is found, the fur is thicker and deeper. Sportsmen who know the tiger of South China and India say that the Manchurian variety is the finest beast of his species in the world. Leopard skins are also unusually large and heavily furred. Fox skins compare favorably with the best Canadian varieties, particularly silver fox, and the higher grade Manchurian sables equal the best Russian sables. Goatskins from this region are plentiful and cheap and make excellent rugs, carriage robes, or cheap skin coats, these coats being suitable for employees on street tramways, etc.

It may be said in general of the Mukden and Manchurian fur trade that although it is very large it might well be much larger and from a foreign point of view more mutually satisfactory to producer and consumer were it freed from certain restrictions under which it now labors. The first of these restrictions is the inflation in all prices which the Russians have left as an incumbent legacy to other buyers in the Manchurian markets. The Chinese have not yet recovered from the impression, gained prior to and during the first part of the war, that a price, however disproportionate to cost of production, competition, or supply, might be exacted of buyers in the open market. From the Russians the Chinese asked and got more than double the rates they can now obtain from the Japanese.

OPPORTUNITY FOR AMERICANS.

Furthermore, the confusion and uncertainty in the currency leads inevitably to an advance in prices. In Mukden four mediums of exchange—Japanese gold yen, the silver yen of the Yokohama Specie Bank, Mexican dollars, and the local (Fengtien) currency—circulate with constantly varying values.

In addition to Russian influence and uncertain currency, the Chinese custom in sales and barter—namely, the absence in dealing with foreign buyers of anything in the nature of fixed prices determined by natural conditions of trade, the tradition of prolonging a sale beyond the limits of modern expeditious business methods by the insistence upon prices largely in excess of those finally to be accepted with a fair margin of profit—still further restrict what should be a steady growth in a trade which already constitutes a large part of the winter industry of the people throughout the northern provinces of China.

Opportunities for American buyers are therefore only good in case fur houses can send representatives to North China to familarize themselves with the situation in Chinese markets. Such men by following the markets in the chief centers—Mukden, Tientsin, Newchwang, and Kwangchengtzu—might be able to establish a very profitable trade in Manchurian furs and skins. American buyers coming thus directly and intelligently on the Manchurian markets need not confine themselves to an export business in cured skins alone, but would be in a position to start a large wholesale trade in raw skins with the dealers from the north bringing those skins into the central Mukden market to be dressed, thus saving a considerable margin of possible profit.

DEMAND FOR FOREIGN GOODS.

GROWING IMPORTATIONS IN WHICH UNITED STATES SHOULD SHARE.

Consul Wilbur T. Gracey, of Tsingtau, calls attention to the increased demand for enameled ware and various other articles in China:

The attention of American manufacturers should be called to the continually increasing demand for enameled ware in China. This class of goods has evidently struck the popular fancy of the better class of Chinese and the customs statistics are reflecting the demand that is being created; 1906 showed an importation of 788,068 haikwan taels worth (1 haikwan tael=83 cents gold), an increase from 247,380 taels, which was the importation in 1904.

These goods include not only all the usual cooking utensils, but wash basins and wash sets, entire washstands, commodes, and stoves, the latter being for use with kerosene oil and being sold complete with a teakettle which exactly fits the stove. Wash basins, in a pink or blue mottled pattern, can now be seen in almost all the better-class houses in the open ports of China, and they are gradually making their way into the interior. A demand for any certain article in China is exceedingly important to the manufacturers of that particular line of goods in other countries, as when a line is once established it commands a trade which is almost incalculable. The demand for this class of goods, which has increased in the past two years almost 300 per cent, is a steadily growing one and there seems every reason to believe that it will increase fully as much during 1908.

At present the markets of China are being supplied almost entirely by the continent of Europe, of which Austria-Hungary is the largest exporter, having sent to China during 1906 enameled ware to the value of 457,462 taels. Germany is second with 286,673 taels, while the United States only supplies about 6,000 taels in value.

Most of this class of goods is sold through the Shanghai dealers, who imported in 1906 to the value of 346,496 taels. Tientsin imported 201,053 taels value, and the Province of Shantung, through the two ports of Chefoo and Tsingtau, about 70,000 taels value. Almost every shop in this city handles this class of goods and report a growing demand.

One class of goods which is finding a ready sale among the natives is a small washstand. Three iron enameled legs support a circle in which an enameled wash basin is set, a shelf underneath makes a convenient place for the pitcher, and a second shelf is provided with a movable soap dish. The whole stand complete with bowl, pitcher, and soap dish sells locally at retail for about $1.40 gold.

EXTENSIVE IMPORTS DUE TO FOREIGN RESIDENTS.

A recent paper published in China gives some notes regarding the class of goods being imported into Shanghai for the use of the Europeans resident there.

A British firm has recently made a large importation of electroplated and silver ware from an English firm; likewise a large quantity of jewelry for sale to Europeans and wealthy Chinese in Shanghai. The British firm supplies all its goods at the same prices it makes in Great Britain, and arrangements are made with the London store by which persons in that city wishing to send presents to their friends in Shanghai or elsewhere in China can make their purchases in London, and the goods will be delivered to the friends in China from the stock of goods in the Shanghai shop. The process can also be reversed and residents of Shanghai can make purchases of goods in China at London prices, to be delivered to their friends in Great Britain from the London shops. Illustrated catalogues have been issued and the arrangement is filling a long-felt want. There is a good opportunity for an American firm to do the same, and an arrangement by which goods could be ordered and paid for in Shanghai or other ports in China and delivered to friends in America from the stock there, or vice versa, would be a great boon to residents of China who have friends in the United States. The difficulty of sending gifts to persons in America, owing to the lack of parcel-post facilities and the customs difficulties, is one which is continually discussed in the Orient, and it remains for some enterprising American firm to make arrangements with agents in China for a similar exchange business to that recently inaugurated by this British firm. The name of the Shanghai firm which now makes these importations is on file in the Bureau of Manufactures.

READY-MADE SUITS, HOUSE EQUIPMENTS, AND SODA FOUNTAINS.

Another innovation in Shanghai is the importation of stylish ready-made ladies' suits from New York. Automobile suits are being sold at $9 gold each, and well-made walking suits at $22. All these are the latest New York styles and the fit is guaranteed. This fills a long-felt want in Shanghai, and there should be an opportunity for an energetic American firm to introduce ready-made gentlemen's suits. The address of the importing firm, as well as a list of similar concerns, is on file in the Bureau of Manufactures.

A Shanghai house furnishing firm has recently imported a large number of paintings, engravings, etchings, etc., which are finding a ready sale on that market. A list of dealers in such goods is on file at the Bureau of Manufactures.

The Shanghai waterworks has imported a large line of kitchen ranges, comprising all the latest kinds and having all the most up-to-date improvements. A shipment of lavatories found such a ready sale that after one month not one remains, and a new stock has been ordered. The same company has imported an attachment for bath tubs, which is a shower and bath combined, complete, with an overhead and side spray, either hot, cold, or tepid, and fitted with a thermometer, so that the temperature of the water can be regulated. It is beautifully fitted with nickel-plated taps, pipes, etc.

A pharmacist in Shanghai has recently introduced an American soda-water fountain, the first one in that city, which has proved popular during the past summer. There is a probable opening for other soda-water fountains and accessories in that city. The names of the above and six other pharmacists in Shanghai are on file in the Bureau of Manufactures.

ELECTRICAL AND OTHER GOODS.

Another company (name on file in Bureau of Manufactures) has a new assortment of electrical fittings, all of which are said to be most artistic. Electrical kettles for afternoon tea are finding a sale in Shanghai; also electrical radiators in plain and ornamental styles, which are most useful in Shanghai during the damp weather, when a small and steady fire is needed for drying clothing, etc. The Shanghai municipal electrical department has a special low rate of charge for these heating appliances, and they are now being used in residences and offices in Shanghai.

There is a constant demand among the Chinese for perfumes, which are being largely imported. Addresses of the firms are on file in the Bureau of Manufactures.

A cigar factory has recently been started in Shanghai under an expert manufacturer, which is turning out cigars at reasonable prices and finding good business.

Another Shanghai firm has imported a large supply of garden seeds. This firm consults yearly with the chief gardener of the Shanghai municipal council, and the seeds are thus chosen with a full knowledge of the climate and its possibilities. Address of the importing firm on file in the Bureau of Manufactures.

An enterprising Russian in Shanghai is manufacturing what are known as "Eternal" dress-suit cases. These are said to resemble calfskin, and are said to be absolutely weatherproof. They are usually made 24 by 14 by 8 inches, and the fittings include a tray with straps, pockets for correspondence, patent brass lock, with two strong clasps, etc. They sell for $6 gold, and there should be an opportunity for the introduction of American goods at correspondingly low prices.

A British firm in Shanghai has recently imported an excellent American cordial, which is said to greatly aid the digestive organs. Owing to the prevalence of digestive diseases in China it is expected that it will command a good market. The importing firm is a well-known one, and the name is on file in the Bureau of Manufactures.

STRAITS SETTLEMENTS.

MANY VALUABLE CARGOES OF MERCHANDISE SHIPPED ABROAD.

Consul-General Thornwell Haynes, of Singapore, states that official returns divide the exports and imports of the Straits Settlements colony into four classes, which he names and describes in detail:

First, live animals, food, drink, and narcotics; second, raw materials; third, manufactured articles; fourth, coin and bullion. Naturally, from an undeveloped country, exports of the first and second classes greatly exceed those of the third class.

The total value of exports during the first six months of 1907 of the first class, which comprises cattle, goats, horses and ponies, poultry, sheep, swine, wild animals, fish, fruits, grain, lard, meats, sago, spices, sugar, tapioca, tea, vegetables, malt liquor, spirits, wine, tobacco, and opium, was $33,493,068, an increase of $1,585,397 over the corresponding period of 1906. Of this value rice furnished $3,849,581 worth, or more than one-eighth. Dry and salted fish valued at $1,343,232 come next, with pepper, areca nuts, tapioca, opium, sugar, and pineapples ranking in order. Of the $1,138,718 worth of exported preserved pineapples, $247,693 worth, or nearly one-fifth, went to America. A considerably greater proportion of black pepper, $625,715, out of a total of $1,809,198 worth, or more than one-third, was also shipped to America, while one-half of the $167,396 worth of nutmegs went there.

A TRANSSHIPMENT TRAFFIC—HEAVY TIN EXPORTS.

These products are mostly of foreign origin, and are transshipped at Singapore. Pepper comes mostly from the Malay States, Sumatra, and Java. Ninety per cent of exported pineapples, however, are of local origin. Opium, with the exception of an insignificant quantity from Hongkong and the Celebes, comes exclusively from India, and nutmegs from the Celebes and Netherlands Archipelago.

Articles listed in the official returns as raw materials consist of textiles, metals, gums, nuts, oils, rattans, seed, shells, stones, and wood. The value of these exported for the first half of 1907 was $38.974,310, of which $25,345,897 worth, or 65 per cent, consisted of tin, America taking $3,518,655 worth. It is interesting to note that of the total value of exports from Singapore to the United States during the fiscal year ending June 30, 1907, over 45 per cent was tin, the figures being, respectively, $15,175,027 and $6.938,233. Ninety per cent of this metal goes to Atlantic ports, the Pacific receiving the other 10 per cent. It has been remarked that owing to the high value of tin all insurance companies assume risks only on limited quantities, the complement of the cargo consisting of rattans and other less valued and more bulky articles. The shipments for America invoiced at this consulate-general are usually of 30 to 40 tons, but cargoes leaving Singapore for different ports are generally of 600 to 800 tons.

MANY PRODUCTS SHIPPED TO UNITED STATES.

Next to tin America takes more gutta, rattans, gambier, and gum copal than anything else, the amounts for the first six months of 1907 being, respectively, $293,029, $256,890, $197,617, and $139,057.

Gutta enters Singapore mostly from Borneo and Sumatra, and is exported to the United Kingdom, Germany, America, France, Belgium, and Italy, the first mentioned taking, in 1906, $954,204 worth, Germany half that amount, America $147,198 worth, and the three last named following in order.

The $997,214 worth of rattans shipped to the United States during the fiscal year ending June 30, 1907, were invoiced to New York and Boston, each city taking about half. No rattans shipped from Singapore are of local origin. They enter here principally from Dutch Borneo and Sumatra. The total amount from all sources entering during 1906 was 27,811 tons, valued at $2,179,608. Something of the transshippers' gain can be seen by comparing these figures with the amount and value exported during the same year, the amount, 26,176 tons, being less than the imports, but the value, $2,502,066, nearly a third of a million dollars greater. After America, Germany takes most rattans, the amount for 1906 being $730,143, while only $163,801 worth went to England.

AMERICA NOW BUYING DIRECT.

The annual average value of gambier for the last two years entering at Singapore was $2,931,000, of which $1,943,800 worth came from the independent province of Johore, which forms the southern extremity of the Malay Peninsula, its capital, Johore, being 15 miles by rail from Singapore. Practically all of the gambier entering the United States is shipped from Singapore, the value from all sources in 1905 being $1,112,660, of which Singapore furnished $1,009,000 worth. Six years ago $65,192 worth of this article was imported by America from England, the value since that time gradually decreasing to $3,430 worth in 1905. Do such statistics imply that Americans are slow to learn that it is not profitable to pay others to get from the country of origin what they themselves can as easily obtain direct?

As listed in official returns the third class of imports and exports at Singapore are manufactured articles, which comprise cotton, silk, and woolen goods, cordage, arms and ammunition, machinery, building material, matches, paper, etc., the total value of all entering for the year 1906 being $39,732,400 worth and for the first six months of 1907 $11,846,000. None of this class is exported to America.

The total value exported during 1906 of class four, coin and bullion, was $17,140,734, of which three-fourths was silver coin. The import values during the same period were: Gold bullion, $3,288,232; gold coin, $5,598,451, and silver coin, $3,356,270.

ASIATIC TURKEY.

SMYRNA UMBRELLA IMPORTS.

VARIOUS EUROPEAN COUNTRIES PARTICIPATING IN THE TRADE.

Consul Ernest L. Harris, writing from Smyrna, says that up to within recent years the umbrella and parasol trade of that Turkish region was supplied entirely by France, Austria, Italy, and England. He furnishes the following trade particulars:

The article ranged in price from $2 to $5.50, and the annual importations amounted to about $8,000. Some twenty years ago, the manufacture of cheap umbrellas was started in Constantinople and Saloniki, and owing to the inferior quality of materials used, as also to the cheapness of native labor, the homemade article was soon able to compete advantageously with foreign goods. Smyrna also soon followed the example of the capital and her rival city, and can now boast of several umbrella factories which turn out very creditable work.

With the exception of the plain wooden sticks, which are made locally, all the materials entering into the makeup of an umbrella are imported from Europe. Ninety per cent of the complete steel frames and of the disconnected ribs for mounting on wooden sticks come from Rhenish provinces, especially from the city of Weyer. The balance is furnished by Italy, England, and Belgium. France also supplies the fine, nickeled article, the consumption of which, however, is very limited. Formerly France exported to these parts horn handles for about $2 a dozen, but a firm near Vienna now delivers these handles for little over $1 a dozen.

For the cheap, current article, which constitutes the greater part of the demand, ordinary cotton cloth, known under the name of "Regina," used to be imported from Manchester. Of late years, however, Italy has secured nearly the whole of this trade by underselling English manufacturers. The better grades of cotton cloth are imported from England, Austria, Germany, and Italy. The half-silk and half-cotton cloth comes from Austria and Germany. Silk is supplied by Italy and Austria, and very little by France. As regards sticks with handles, Austria furnishes about 90 per cent of the demand.

The umbrella trade of Smyrna amounts, on an average, to $50,000 per annum, of which $20,000 is supplied by Constantinople and Saloniki, and $10,000 by Europe.

AMERICAN STARCH OPENING.

LEVANTINE MARKETS WOULD TAKE MORE BY DIRECT SHIPMENTS.

Consul Harris, in the following report from Smyrna, also points out how the sales of American starch could be increased in Asiatic Turkey:

Up to three or four years ago the whole of the starch imported into Smyrna came from Austria and France. This starch is extracted from maize and is used partly for sizing and principally in the manufacture of "loucoum" or Turkish delight. The starch for sizing is in small pieces and sells in 4 and 6 pound packages. That used in the preparation of loucoum is imported in the shape of powder, and in sacks of 175 to 200 pounds. The annual consumption of sizing starch is estimated at about 1,800 55-pound cases, while loucoum starch imports average 4,500 sacks per annum.

Of late American starch has been imported through commission houses at Hamburg and Havre. I am informed that it is greatly appreciated owing to its binding qualities. I am also told that American starch manufacturers would secure a much larger share of the trade if instead of conducting the business through middlemen in Hamburg, Havre, or other European ports they would appoint native representatives and thereby avoid extra commission.

A fairly good quality of loucoum starch sells at about $5 per 212 pounds c. i. f. Smyrna, sacks free. Terms, two months credit, or cash against documents with a small discount. Sizing starch sells under the given terms for about $6 per 212 pounds.

KOREA.

OPPORTUNITY FOR MORE EXTENSIVE SALE OF MANUFACTURED PRODUCTS.

In reply to a Boston inquiry Consul-General Thomas Sammons, of Seoul, reports that, while there are difficulties to overcome before an increase in direct transactions between Korea and New England will become feasible, there is a daily increasing demand for some of the articles for which New England is so justly famous. Some of the trade opportunities he mentions:

There is an increasing demand for American boots and shoes, but the conditions prevailing here at present are unfavorable for marketing goods of this character. This is due largely to the absence of retail stores that could handle American-made boots and shoes, as is the case elsewhere throughout the world.

A medium-priced shoe costing from $3 to $5 retail would find a ready market, and the first year would repay the expenses of establishing a retail store in Seoul to handle a small, well-selected stock. An American who imported early in 1907 a small line of this class of goods sold them immediately at a good profit.

The greatest handicap of doing any direct business with America is the fact that the American exporter usually demands spot cash against documents in America, consequently the loss of interest resulting from this method, coupled with the uncertainty as to when the goods will actually arrive here, is so great that the merchants prefer to pay higher prices even for inferior goods and get them from Japan.

Watches, rubber and elastic goods, refrigerators, hardware, hats and caps would also find here a limited, but increasing market.

Those who have had experience in handling American goods direct inform me that it takes from three to nine months from the date of ordering to get the goods to Korea. Cash must, as a rule, be sent with small orders, and interest rates being from 10 to 24 per cent per annum, and even higher in some instances, transactions of this kind are not inviting. Under more settled conditions and with a growing demand for American goods the result will be the introduction of various novelties as well as staples. At present kerosene oil, cigarettes, and cotton goods are to be classed among the established staples that find a market in Korea. Where American goods sell most freely in Korea stocks are carried and the trade is personally pushed by Americans.

BRITISH INDIA.

LARGE INCREASE IN IMPORTS AND EXPORTS LAST YEAR.

Consul-General William H. Michael, of Calcutta, furnishes the following statistics covering the foreign trade of British India in 1907:

The sea-borne trade of British India for the seven months ended October 31, 1907, shows an increase over the trade for the same months of 1906 of $33,986,069 in the imports and $57,748,419 in the exports, including $7,557,647 reexported. The imports and exports of merchandise for the seven months of 1907 were as follows, by provinces:

Province.	Imports.	Exports.	Province.	Imports.	Exports.
Bengal	$108,178,588	$142,435,736	Madras	$19,009,836	$39,900,091
Eastern Bengal and Assam	1,158,618	5,849,853	Burma	18,974,160	29,110,440
Bombay	80,028,406	99,254,375	Total	239,417,351	361,134,444
Sind	17,068,298	44,583,949			

In addition to the foregoing, government stores were imported to the value of $12,282,550 and exported to the value of $284,516. Gold and silver imported and exported during the seven months: Imports,

$72,105,198; exports, $10,204,783. Gross amount of duties collected: On imports, including the duty collected on salt, $13,868,450; on exports, $1,682,401.

PROBABLE TRADE FOR THE WHOLE YEAR.

Taking the trade of the seven months as a basis, the value of the imports and exports for the whole fiscal year ending March 31, 1908, will not be far from the following: Imports, $410,429,736; exports, $637,186,440. The imports and exports are likely to be relatively the same for the remaining five months as they were for the first seven months of the year. The losses in exports of certain products of the soil, due to the drought, will probably be made up by the increase in exports of skins and hides, which always occurs in famine years, and an increase in shellac and minerals.

This estimate does not take into account the imports and exports of treasure, either public or private, but simply merchandise.

CEYLON.

VAST SHIPMENTS OF TEA—EXPORTS TO THE UNITED STATES.

Consul Edward A. Creevey, of Colombo, furnishes the following report covering the trade in part of Ceylon for the years 1906 and 1907:

IMPORTS.

Articles.	1906.	1907.	Articles.	1906.	1907.
Cement barrels	44,872	61,278	Lamps, hardware, etc	$537,068	$504,084
Coal tons	728,602	619,608	Matches cases	5,666	4,749
Fertilizers cwt	729,478	855,447	Oil, kerosene gallons	3,220,929	3,496,928
Iron manufactures do	46,884	71,633	Wines and spirits do	258,264	308,542

EXPORTS.

Cinnamon pounds	5,422,005	5,777,962	Oil:		
Cardamon do	685,256	765,470	Cinnamon ounces	157,344	97,229
Cocoanuts, desiccated pounds	19,384,546	22,359,138	Citronella pounds	1,107,655	1,230,159
			Cocoanut cwt	511,720	460,683
Cocoa cwt	49,402	88,180	Poonac do	243,011	208,957
Coffee do	7,334	1,843	Rubber pounds	291,225	580,908
Coir, rope, etc do	272,548	296,338	Tea do	162,191,321	175,450,186
Ebony do	3,431	1,154			

The leading articles of export to America in 1907 were: Tea 11,845,337 pounds, against 12,241,870 pounds in 1906; plumbago 278,354 hundredweights, against 284,231 hundredweights, and cocoanut oil 99,895 hundredweights, against 89,545 hundredweights. There were also shipped to America in 1907, 181,156 pounds of rubber, 2,359 hundredweights of cocoa, 3,719,875 pounds of desiccated cocoanuts, 1,017,521 pounds of cinnamon, and 10,930 ounces of cinnamon oil.

The exports of tea to the United Kingdom during 1907 amounted to 108,421,473 pounds, against 102,233,319 pounds in 1906. Russia took 16,459,239 pounds of tea in 1907, as against 12,051,490 pounds in 1906, while Australia increased her purchases from 22,991,939 pounds in 1906 to 23,642,732 pounds in 1907.

JAPAN.

EXPORTS TO CHINA.

CONSIDERABLE DECREASE IN SHIPMENTS—IMPORTS INCREASE.

Consul-General Henry B. Miller, of Yokohama, supplies the following review of the trade of Japan with China as published by a Japanese journal:

Export trade with China in 1907 was very unfavorable, this being due to the depression of trade in the interior of China and the low price of silver. The value of imports from China for the ten months ending October amounted to $23,500,000 gold, an increase of $925,000, while the value of exports was $47,500,000, a decrease of $315,000 on the figures for the corresponding period of last year. The values of the principal Japanese goods exported to China for the comparative ten months' periods were compared as follows:

	1907.	1906.		1907.	1906.
Cotton yarn	$11,495,000	$12,573,000	Beer	$320,000	$341,000
Cotton fabrics	3,398,000	3,306,000	Sake	476,000	304,000
Towels	445,000	290,000	Sugar	741,000	4,675,000
Matches	1,823,000	2,027,000	Cigarettes	463,000	354,000
Porcelain	333,000	383,000	Copper	4,098,000	1,798,000
European umbrellas	412,000	490,000	Coal	3,050,000	3,877,000
Cuttlefish	113,000	154,000			

It will be seen from these figures that the lines which showed increases are cotton fabrics, towels, sake, cigarettes, and copper, all the others showing a falling off. There is a drep of no less than $3,934,000 in sugar, of $1,078,000 in cotton yarn, and of $827,000 in coal.

NEW PORT OPENED.

FOREIGN TRADE MAY NOW BE CARRIED ON WITH NAGOYA.

Vice-Consul Walter Gassett, of Kobe, forwards an extract from the Japan Chronicle descriptive of the improvements to the harbor of Atsuta, a seaport suburb of Nagoya, which was formally opened to foreign trade on November 10, 1907. At present the depth of the water is 25 feet at low tide, and ships of 2,000 tons can be accommodated, which will limit the port's traffic to steamers trading with China and Korea.

FRENCH KONGO.

THE OFFICIAL STATISTICS SHOW INCREASING IMPORTS AND EXPORTS.

Consular Clerk Milton B. Kirk, of Paris, reports that the commercial movement of the colony of the French Kongo in 1906 reached the sum of $5,704,012, an increase of $1,011,817 on the year 1805, particulars of which follow:

The imports in 1906 amounted to $2,527,073, an increase over 1905 of $523,897; exports, $3,176,939, an increase of $487,920. France's share was 41.8 per cent of imports and 34.3 per cent of the exports; French colonies took 0.3 per cent of each, other countries the remainder. The general trade of French Kongo has made a steady growth in the past twelve years, the imports having been in 1895 only $323,408 from France, $13,305 from French colonies, and $753,521 from other countries; the exports in 1895 were, respectively, $124,534, $1,170, and $829,411. The imports in 1906 were as follows:

	France.	England.	Belgium.	Germany.	United States.
Animal products	$96,555	$39,161	$18,099	$10,191	$5,792
Vegetable products	239,346	34,847	24,214	43,684	15,858
Mineral products	17,815	11,676	14,819	5,681	9,398
Manufactured products	703,765	533,203	200,798	142,228	3,340

VALUE OF TEXTILE IMPORTS.

The chief import for 1906 was textiles, $244,513 worth of which was imported from France, $440,078 from England, $122,207 from Belgium, $67,978 from Holland, $24,199 from Germany, and $73 from the United States. No doubt the principal reason for the extremely poor showing of America in textiles and other goods is the lack of a regular line of merchant vessels.

The principal exports are vegetable oils, woods, and ivory; most of these products are taken by France and Belgium. The United States does not appear to enter in the colonial exports.

FRENCH SOMALILAND.

STATISTICS OF IMPORTS AND EXPORTS OF AN AFRICAN REGION.

Mr. Kirk reports that the trade of French Somaliland in 1906 reached the sum of $6,610,162, an increase of $791,415 over the year 1905. In 1906 the imports were $2,697,528 and the exports $3,912,634. Mr. Kirk continues:

Of the imports, France furnished 13.9 per cent, French colonies 0.1 per cent, and other countries 86 per cent. France took 6.8 per cent of the exports, French colonies 1.4 per cent, and other countries 91.8 per cent. The imports in 1906 were as follows:

	France and colonies.	England.	Egypt.	Aden, Arabia.	Germany.
Animal products	$10,790	$268	$2,806	$9,391	$412
Vegetable products	87,810	938	12,608	271,492	17,383
Mineral products	28,728	208,653	----------	27,419	1,625
Manufactured products	415,508	85,646	10,530	1,310,695	39,344

TRANSSHIPMENTS AT ADEN.

The larger part of the imports from the various countries does not arrive direct, but is transshipped at Aden, while nearly all the native products of this colony and the hinterland are shipped to Aden, and there transferred to their final destination. Thus, of the crude product exports in 1906, $1,458,974 worth went to Aden and only $169,597 to France and the colonies.

French products reexported into Abyssinia in 1906 aggregated $317,964, while $1,629,859 worth of products of other countries was likewise reexported to King Menelik's country.

SIERRA LEONE.

IMPORTS AND EXPORTS OF A BRITISH COLONIAL SETTLEMENT.

Consul W. J. Yerby furnishes the following report covering the trade of Sierra Leone, Africa, for the first six months of 1907:

Imports.	Value.	Imports.	Value.
Beads	$31,005	Perfumery	$18,468
Bread	6,806	Provisions	38,808
Cotton goods	584,953	Rum	37,154
Flour	38,281	Salt	23,159
Geneva	56,590	Soap	8,489
Haberdashery	74,435	Sugar	21,245
Hats and caps	34,040	Tobacco, cigars, etc	134,669
Hardware	59,110	All other articles	399,479
Iron pots	17,864		
Kerosene oil	25,468	Total	1,658,896
Lumber	48,388		

The total values of the exports were $1,674,149, and they consisted of the following principal items: Palm kernels, worth $993,375; rubber, $68,133, and palm oil, $83,284.

MADAGASCAR.

UNFAVORABLE BUSINESS CONDITIONS AFFECT TRADE.

Consul James G. Carter reports from Tamatave that the imports of Madagascar for the quarter ending September 30, 1907, amounted to $1,179,904. The imports from France dropped $372,261 from the same period of 1906, while the imports from foreign countries increased by $22,578. The exports of the island for the quarter amounted to $1,488,105, an increase of $36,306 over the 1906 period. Business is not good in Madagascar, and it is expected that the total statistics for the twelve months of 1907 will show a decrease of about $4,000,000.

TRANSPORTATION.

WORLD'S RAILWAY SYSTEMS.

UNITED KINGDOM.

HANDLING FREIGHT AT LIVERPOOL — DEMURRAGE CHARGES.

Replying to an inquiry from Chicago, on the handling of freight by the Liverpool railway companies, especially as to the holding of cars loaded, Vice-Consul W. J. Sulis writes as follows:

Freight cars on English railways may be grouped under the headings, those owned by the railway companies, and those owned by traders or private concerns. With the exception of coal, coke, lime, oil, and a few other articles, the nature of which renders necessary the provisions of a special type of car for conveyance, the whole of the general freight on the railways is carried in vehicles owned by the railway companies. In the coal trade the great majority of the cars or trucks are owned by the colliery companies, the remainder by the merchants or traders. Cars for lime, oil, and certain other goods are privately owned.

The railway companies here have erected commodious warehouses for the purpose of dealing with the traffic on their lines passing through this port. With certain exceptions, shown in Schedules A and B, attached hereto, merchandise is stored in such warehouses for varying periods free of charge. Generally speaking, the period in Liverpool is fourteen days.

The use of the companies' railroad cars is included in the rate charged for the conveyance of goods, so also are the terminal accommodations at the depots. The rate also includes loading and unloading the merchandise to and from the cars. The bulk of the export traffic when it arrives at the railway stations in Liverpool is unloaded from the cars by the railroad companies and put into their warehouses and allowed fourteen days free storage, after which a charge of 8 pence (16 cents) per ton on general goods is made. Where however the merchandise is of a class that does not include handling by the railway companies (see Appendix, classes A and B) it is allowed to remain under load for forty-eight hours from the time at which the consignee has been notified of its arrival after which a demurrage charge at the rate 3s. (73 cents) per car per diem is made.

FACILITATING TRAFFIC MOVEMENT—DETENTION RATES.

In regard to the privately-owned cars, so far as the railway companies are concerned, they may be detained at the depot free of charge for a period of four days, after which a charge for siding, i. e., for the siding track, is made at the rate of 6 pence (12 cents) per car per diem. On the other hand colliery and other car owners make their own demurrage charges against the railway companies for unreasonable detention of their cars.

Under an agreement made in 1905 between the Mersey docks and harbor board, the owners of all the Liverpool docks, and the principal railway companies trading to this port, arrangements were entered into by which merchandise imported or exported in railway trucks or cars in transit through Liverpool could be taken direct from or to the dock quays on trucks when desired. The object of this arrangement is to facilitate and cheapen the handling of traffic, but the facility is not extended to warehoused goods or to merchandise to or from mills or other works. Under the agreement referred to the dock board is responsible for the prompt return of the companies' cars, sheets, ropes, and appliances, subject to the following arrangement as to demurrage, viz:

(a) Empty wagons and sheets belonging to the Liverpool companies handed over to the board for loading into outward vessels not to be subject to demurrage charges.

(b) Wagons and sheets belonging to the companies whose stock is not at home at Liverpool to be subject to demurrage charges if detained beyond forty-eight hours.

(c) Loaded wagons and sheets covering same belonging to railway companies whose stock is at home at Liverpool if detained under load beyond seventy-two hours to be then subject to demurrage charges.

The following are the charges made for detention of cars, etc., as referred to in the preceding clauses:

Cars:	Per car day.	Sheets:	Per sheet.
Ordinary open and covered	$0.73	First day	$0.12
Over 12 and under 15 tons	.73	Each day after	.24
Over 15 and under 20 tons	1.46		
Over 20 and under 30 tons	2.92		
Thirty tons and above	4.86		

Cars handled by the dock board are usually unloaded within the stipulated periods, and that it is quite an exception for demurrage to be incurred.

APPENDIX—EXCEPTIONS.

Principal commodities in Class A.—Basic slag, unground; cannel, coal cinders, clay in bulk, e. o. h. p.; coal, coke, coprolites and rock phosphate unground; creosote, coal tar, gas tar, gas water in owners' tank wagons; cannister, gas lime or gas purifying refuse, gravel, iron ore, iron pyrites, unburnt and burnt; ironstone, limestone, in bulk; manganiferous iron-ore, for making iron; purple ore, sand, slack, stone, and undressed material for the repair of roads; stone, wholly undressed straight from a quarry.

Principal commodities in Class B.—Antimony ore, waste; asphalt paving in blocks; barytes, raw, in bulk; basic material, burnt limestone in bulk to steel converters; basic slag, ground, packed; blooms, billets, or ingots, iron or steel; bricks, clay, common and fire; cement, in blocks or slabs; cement stone; china clay; coal fuel, patent; concrete, in blocks or slabs; coprolites and rock phosphate ground; creosote, coal tar, gas tar, gas water, e. o. h. p.; ferromanganese, in bulk; gas carbon; granite, in blocks, rough or undressed; gravel, tarred, for paving; gypsum, for manure; gypsum stone, in lump, unground; iron and steel: anvils; bar iron or steel exceeding 1 hundredweight per bar in open trucks at request of trader; bars, for tin plate, making cannon balls and shot, and shells not charged; clippings, shearings, and stampings of sheet iron and tin plates, in compressed bundles; scrap, minimum load 4 tons per truck; iron-ore refuse for gas purifying; kainit; lead ashes, in bulk; lime in bulk; manganese ore; manure (other than street, stable, and farm yard) in bulk; peat; pipes, draining, common, for agricultural draining; pig iron; pitch, coal tar in blocks; puddled bar iron; rock salt, in bulk; slates, common; stone in the rough state, building, pitching, paving, curb, or flag.

TRAFFIC AGREEMENT IN SCOTLAND.

TWO LARGEST LINES MAKE A NONCOMPETITIVE ARRANGEMENT.

Consul Rufus Fleming, of Edinburgh, makes the following report on the railway situation in Scotland:

Since 1896 the two principal Scottish railway companies—the North British, whose lines are mainly in east Scotland, and the Caledonian, whose lines are largely in west Scotland—have been operating under a "peace agreement," by which each company undertakes not to promote new lines in the recognized territory of the other. This arrangement seems to have been fairly satisfactory, so far as it goes, but the keen competition in certain districts—notably, between Glasgow and Edinburgh—has proved anything but satisfactory to either company. As a result of pressure brought to bear upon the directors by the Scottish Railway Shareholders' Association, negotiations have been proceeding for some months between the companies with reference to all classes of competitive traffic and a working agreement has been reached, based generally on the idea of pooling competitive business. It is authoritatively announced that from February 1, 1908, on all routes where the companies have hitherto run competing trains, the earnings of the lines will be divided on a prearranged scale, so that it will be in the interest of both companies to reduce the services wherever possible, and neither company will lose when traffic is diverted to the other or when one is carrying more than its share. As an indication of what may be expected, it is worth noting that "week-end" passenger fares (round-trip tickets good from Friday to Monday) have already been raised, although they are still below the maximum prescribed by the Railway Commissioners.

The terms of the agreement do not refer in any way to the through passenger and freight business to England, but apply only to the traffic within Scotland.

FIRES CAUSED BY RAILROADS.

NEW LAW PROVIDES FOR AWARD OF DAMAGES WITHIN CERTAIN LIMITS.

Consul F. W. Mahin, of Nottingham, states that before January 1, 1908, all claims by farmers against railway companies for damage by sparks from engines were governed in Great Britain by the common law, under which a company was not liable except when shown to be negligent. Under a new law of Parliament, proof of damage caused by sparks now carries with it the right to compensation; the company can not plead that it was not negligent. This, however, is limited to cases where the claim does not exceed £100 ($487). In claims beyond that amount (which are rare) it is presumed that the comman-law rule would still govern.

In behalf of railway companies, the new law permits them to enter on land set afire by sparks or on adjoining land and clear away undergrowth and do anything else reasonably necessary to extinguish fires, though trees, shrubs, or bushes must not be disturbed without the owner's consent.

PARAGUAY.

RAILROADS NECESSARY FOR THE DEVELOPMENT OF ITS RESOURCES.

Having seen a newspaper report concerning the formation of a syndicate of American and Canadian capitalists for the construction of railroads in Brazil, destined, ultimately, to connect Rio de Janeiro and Buenos Aires, Consul Edward J. Norton, of Asuncion, furnishes the following information concerning the opportunities and possibilities for railroad construction in Paraguay:

The failure of Paraguay to keep pace with its sister Republics may be largely attributed to its isolated geographical position and its lack of direct means of communication and transportation. In its intercourse with the world Paraguay is restricted to the Paraguay and Parana rivers, one of the greatest waterways on the globe, yet its absolute dependence thereupon has resulted in a heavy handicap on its development and progress.

Argentina and Uruguay, at the gateway to the heart of the South American Continent, have pressed their claims on the thousands of immigrants who have reached those Republics through Buenos Aires and Montevideo, while Asuncion is still five days' journey up river—being 900 miles from Buenos Aires, say as far as Chicago is from New Orleans. This, together with the lack of information as to the prospects and opportunities in Paraguay, influences the immigrants to remain nearer the coast, the result being that a desirable class of settlers or laborers, save in very small numbers, rarely reach Paraguay; hence its agricultural possibilities have been left practically undeveloped, and although its fertile soil will yield as wide a range of products as any of the surrounding Republics, with the exception of Brazil, agriculture is still in a primitive condition.

PROPOSED ASUNCION-SANTOS RAILROAD.

The construction of a railroad which would connect Asuncion with the lines now operating or being built in Brazil, so as to give Paraguay direct access to the coast at Santos or some other convenient Atlantic port, would be the greatest aid to its development.

The construction of the Asuncion-Santos road has been proposed several times, the project having been received very favorably by European capitalists. Preliminary surveys have been made under different concessions, but the plans have never been carried far. The failure of Baring Brothers upset one scheme in this direction, and the setback which South American enterprises suffered thereby seems to have discouraged any further move.

The main system of the projected Asuncion-Santos Railroad would traverse some of the finest districts in the Republic, including the regions where the Yerba Maté plantations are located, the best grazing and the most valuable timber lands; it would also touch at the great cataract of the Parana, the Guayra, whose falls are as imposing and whose volume is greater than Niagara.

PARAGUAY'S ONLY RAILROAD.

The only railroad operating in the country at present is the Paraguay Central Railroad, a single track line of 5 feet 6 inches gage, running from Asuncion, southeasterly to Pirapo, 155 miles. An extension of 60 or 70 miles has recently been commenced, which, when completed, will bring the road to Villa Encarnación, on the Parana. Opposite Villa Encarnación is Posadas, the terminus of the Argentine Northeastern Railroad, a standard gage line running north from Buenos Aires. When the Paraguay Central connects ultimately with the Argentine Northeastern, at Posadas, it will bring Asuncion within 50 hours of Buenos Aires, by an all rail route. All traffic, however, will be subjected to two transfers—the first ferry being at Villa Encarnación, and the second from Ibicui, in the Province of Entre Rios, to Zacate, in the Province of Buenos Aires. Undoubtedly the completion of this all-rail route to Buenos Aires will be of great importance to Paraguay, but it will not supply the needs that exist for the direct easterly outlet to the Atlantic, nor would the completion of this route affect the workings or traffic of the line to the coast.

The movement of traffic on the Paraguay Central Railroad is steadily increasing, the freight in 1905–6 amounting to 102,422 tons, against 69,869 tons in 1904–5. The passenger traffic for both years was as follows:

Passengers.	1904–5.	1905–6.	Increase.
First-class	56,805	107,369	51,064
Second-class	74,454	119,944	45,490
Third-class	559,131	744,208	185,077
Total	689,890	971,521	281,631

WORKING AND IMPROVEMENT OF THE CENTRAL LINE.

The following extracts are from the report of the directors of the Paraguay Central Railway Company on the workings of the line for the financial year ended April 30, 1907:

An agreement ratified by the Paraguayan Congress on July 20, 1907, ends the long-standing dispute between the Government and this company. It provides: (*a*) all outstanding claims between the company and the Government have been abandoned; (*b*) the Government surrenders the issue of £210,000 ($1,021,965) preferred shares; (*c*) the company is free to fix its own tariff so long as not more than 6 per cent per annum is paid on the shares; (*d*) the company acquires freedom from all taxation, municipal or otherwise, for a period of 25 years; (*e*) the company undertakes to extend the line to Encarnación within six years, a distance of about 70 miles.

In consequence of this agreement, it is now advisable to make an arrangement in respect of the arrears of interest owing to the debenture stockholders, in order to enable the company to raise money to properly equip the line with rolling stock, etc., to deal with the extra traffic offering and to construct the exension and feeders. It is therefore proposed to liquidate and reconstruct the present company. Money for improvements is to be raised by an issue of prior lien stock, but it is not expected that the full interest charges on this issue will be incurred before 1912, so that the increase of interest will gradually grow with the receipts.

The total receipts from passenger and freight traffic during the year were $347,740, an increase of $79,058, or 29.43 per cent on the previous year. The expenses were $228,001, an increase of 43.55 per cent, which is explained by extensive repairs to bridges and culverts, the renewal of sleepers, of which over 19,000 were used, heavy repairs to locomotives and rolling stock, and also to the increased cost of labor in the Republic. The net receipts were $119,729, an increase of 9.01 per cent, but it was necessary, owing to the delay in effecting a settlement with the Government, once again to employ the net receipts in the purchase of plant and materials for the betterment and special renewals of the rolling stock and property.

The passenger mileage amounted to 17,168,000, which was however a decrease of 6.18 per cent as against the year previous. This was due in a great measure to the stoppage of traffic for seventeen days in April due to a strike. The passenger movement is phenomenal for a small railway, and shows signs of continual expansion. The local train system is being extended to Paraguarí, a station for a large district, 45 miles from Asuncion. The rolling stock consists of 14 locomotives, 55 coaches, and 171 cargo cars.

CHINA.

PROPOSED SYSTEM FOR THE RAILWAYS IN THE EMPIRE.

Consul-General James W. Ragsdale, of Tientsin, reports that Tseng Chun-hsuan has memorialized the Throne suggesting the advisability of having China's railways under unified control with a proper system, and the board of communications, after having perused the memorial, by Imperial orders, sent in its views to the Throne.

The views of the board of communications are divided into three sections: (1) The center of all the railway systems of China; (2) four trunk lines; (3) branch lines; detailed as follows:

CENTER OF THE SYSTEMS.

It is stated that since the Tientsin-Shanhaikwan Railway, the railway carrying the mining products of Kaiping coal mines, and the Peking-Hankow line are the only lines of importance at present, Hankow should be made the center of all the railway systems in China. Such is the majority of opinions expressed by people who talk about the railway administration of China. There are others who maintain that Hsiang-fu is the best place for such a center.

THE FOUR TRUNK LINES.

What we call four trunk lines are:

(1) *Southern.*—When the Peking-Hankow Railway connects with the proposed line between Hankow and Canton, when it is completed, it will be made the Southern Trunk Line, by connecting Fuchang and Hankow by ferryboat.

(2) *Northern.*—The line to the north is one between Peking and Kalgan, and regarding the proposed Mongolian Railway made by Prince Su, the Board has already mentioned that the Peking-Kalgan line should be extended to Kulun (Urga) and then to Kiachta, and this line will become the Northern Trunk Line.

(3) *Eastern.*—The line to the east from Tientsin to Hsinmintung and Mukden, which has been restored by Japan. Regarding the line of the Heilungkiang Province, proposed by Chengtehchuan, the governor of that Province, the Board of Communications has stated that the line should be extended to Aigun via Chiaonan, Tsitsibar. When this line is completed this may be made the Eastern Trunk Line.

(4) *Western.*—The line between Cheng-ting and Tayuen will be joined with the Tungpu Railway, and then it will further be extended to the west, with the line between Tungkuan and Lanchow, as proposed by the ex-governor of Shensi, Tsao Hung-hsun, and thence to Ili. When this is completed it may be called the Western Trunk Line.

THE BRANCH LINE SYSTEM.

The branch lines of the Southern Trunk Line: (1) Peking to Chengchow and thence from Kaifengfu, Honan, to Anhui; (2) from Reinyangchow to Kiangsu via Kiangpu; (3) from Hankow to Hsiangfu; (4) from Wuchang to Kiangsi; (5) from Hunan to Kueichow; (6) from Canton there will be four branch lines: (a) Canton-Kowloon, (b) Canton-Macao, (c) Huichow-Chaochowfu-Amoy, (d) Wuchow-Kueilin. All the lines in Honan, Anhui, Kiangsu, Cheking, Kiangsi, Fukien, Hupeh, Hunan, Shantung, Kueichow, Kuangsi, and Kuantung will be included in those branch lines.

Branch lines for the Northern Trunk Line: When the line reaches Kalgan, from Peking, as Cheng Hsun, the lieutenant military governor of Chahar, has pointed out, there should be two branch lines, namely, one to Jehol, toward the east, to connect Kalgan with that place, and another to Suiyuan (Kukukoti), toward the west, to connect the same with Kalgan, and when the line reaches Kulun (Urga) it will again be divided into two branches, namely, to outer and inner Mongolia. All the lines in Mongolia and Jehol will be included in the branch lines of the Northern Trunk Line.

Branch lines for the Eastern Trunk Line: At Tientsin, Tientsin-Chinkiang Railway, via Kiaochow and Tsinanfu; at Kaopangtse, a line between Kingkow and Port Arthur; at Mukden the line runs toward the east to join the Russian Manchurian Railway. The lines in Shantung, Mukden, Kirin, and Heilungkiang are to be included under this trunk line.

Branch lines for the Western Trunk Line: At Taiyuan, a line to Tatung, to connect with the Kalgan-Suiyuan line; at Pingyang, a line to Tsechow, to connect with the Tsechow-Taokao line; at Tungkuan, a line to Loyang, to connect with the Loyang-Honan Railway; at Hsiang, a line to the northwest, via Pinglin to Ninghsia, another to the southwest, via Hanchung to Chengtu, which will join the Szechuan-Hankow Railway on the east, and the Yunnan-Szechuan Railway on the south, and thence to the Yunnan-Annam and the

Yunnan-Burmah lines. On the west, at Lanchow, lines to Tsingkai (Kokonor) and Tibet will be built as branch lines. The lines in Shansi, Shensi, Kansu, Hsinchiang, Szechuan, Yunnan, Tsinghai, and Tibet will be included under this trunk line.

GENERAL RAILWAY DEVELOPMENT.

TWO NEW LINES PROJECTED AND ONE OPENED TO TRAFFIC.

Consul Wilbur T. Gracey, of Tsingtau, furnishes the following information concerning recent activity on the part of the Chinese in railways and railway building:

An Imperial rescript was issued on October 25, 1907, sanctioning the proposed loan of £1,500,000 ($7,299,750) from the British and Chinese corporation for the construction of the Soochow-Hangchow-Ningpo Railway. The loan will be guaranteed by the provincial governments of Kiangsu and Chekiang. The chief engineer will be an Englishman, engaged by China on condition that he must be recognized by the corporation. The line will be built and controlled by the Chinese. It is considered probable that the corporation will soon proceed to negotiate with the Chinese authorities about the Pukow-Hsinyang and the Honan-Yangtsekiang lines. Great Britain will build the south section in Kiangsu, and Germany the north portion in Chili and Shantung, but the lines will be handed over to China, section by section, upon their completion, and will be administered by the Chinese without the interference of British or German capitalists.

Three of the wealthiest men of Ningpo have offered to subscribe $7,470,000 for the construction of the Chekiang-Kiangsu Railway, if the line can be brought back into the hands of the Chekiang Railway Company, a Chinese corporation, and they also demand the right to construct a branch line entirely with capital subscribed by the natives of Ningpo. At a meeting of the Chekiang gentry, recently held in Shanghai, to raise funds for the line, and thus make a foreign loan unnecessary, $16,434,000 was subscribed, the city of Ningpo subscribing $5,229,000.

The Cheng-ting-Taiyuan branch of the Peking-Hankow Railway was formally opened to traffic on November 6. The length of the line is 193 miles. It has been built in three years and three months. It has 831 stone and 73 iron bridges and 19 tunnels, which were built by Chinese contractors, and which are found to be in excellent condition. The line taps the province of Shansi, the richest coal and iron field in the world.

GERMANY.

A NEW PRUSSIAN SIGNAL APPARATUS.

Consul Talbot J. Albert, of Brunswick, states that the numerous railroad accidents which have recently occurred in Germany because the engineers overlooked the signals to stop have caused the Prussian railway administration to introduce a new signal apparatus, the operation of which he explains:

In cases of thick fog it has happened that the locomotive engineer could not distinguish on which side of the track the alarm signal stood, the signal mast being hidden by the mist, and has proceeded on his way. The purpose of the new appliance is to bring directly before the eyes of the engineer the warning that in a short time a signal may be expected. So soon as the apparatus acts, he is notified that he will see a signal within not less than 100 meters (about 110 yards). If he can not discern whether the signal is to stop or proceed, then he must halt his train and go to the mast and ascertain his instructions. For reasons which are apparent the giving of signals to the engineer directly upon the locomotive has been avoided. If he had only to observe signals in the cab, then the attention which it is his duty to devote to the road would greatly diminish. The watching from the locomotive, which is absolutely necessary for the safety of the train, would be gradually left unperformed and the attention only directed to the little apparatus in the cab.

DETAILS OF THE INVENTION.

This new apparatus, which has been made by a German firm [address recorded at the Bureau of Manufactures] after long and careful experiments, has been installed on a number of railroad lines. As has been said, its purpose is to call the attention of the engineer to the fact that by a distinctly visible sign in the cab a signal may be very shortly expected. At first sight nothing appears simpler than a contrivance which would cause a flap to fall and reveal a signboard or cause a bell to sound. It seems only necessary to mount alongside the track a firm arm, against which a movable attachment on the locomotive could strike. Experiments, however, have shown that a contrivance so simple could not be carried out. The fastest trains in Germany are those between Berlin and Halle, which travel at the rate of 110 kilometers (68 miles) per hour. An experiment has shown that no object can endure the shock of a body moving so rapidly. Tests were made with thick staves made out of the best steel hung loosely and they were twisted out of shape by the impact of a body moving with the rapidity of an express train.

The apparatus which was finally adopted is as follows: At a fixed distance from the signal post two parallel iron bars with a small space between them are mounted along the track for several yards. There is attached to the locomotive an arm which carries a bristly broom made of pliable copper wires. The passage of this broom between the iron bars produces a contact which is intense and free from concussion. An electrical action follows upon the mechanism in the cab, a bell sounds, and a white slide replaces a red. The sign remains plainly visible to the eye until the engineer presses a button. He knows definitely that a signal is to be expected, and if he can not clearly make out the order intended, will stop the train.

HANDLING OF FREIGHT.

SHIPPING AND WAREHOUSING GOODS FOR EXPORT.

Regarding the holding of cars loaded with German freight for export movement, Consul-General A. W. Thackara, of Berlin, furnishes the following information, which was furnished him by one of the principal Prussian railway officials:

There is, as in America, a distinction made between shipment of goods in less than carload lots (Stückgut) and those which entirely fill the car (Wagenladung). The former are generally smaller than American shipments, partly because the German cars are not as large as those used in the United States (about 15 tons against 45 tons), and partly for the reason that the differences between the freight rates of small parcels and carload shipments is greater in Germany than in America.

Stückgut, or less than carload lots, are in Germany unloaded by the railroad company and stored until called for in their railway sheds. Goods must be hauled away, to avoid the payment of storage costs, within twenty-four hours, either by the company's carts, by those of the shipping agent, or by those of the owner of the goods.

Carload lots are not unloaded by the company, but by the owner, or by a truck company, upon the presentation of a delivery order signed by the owner. Unloading should be finished within twenty-four hours. For the first day over the twenty-four hours a storage charge of 2 marks (47.6 cents) is made; for the second day, 3 marks (71.4 cents), and 4 marks (95.2 cents) for every consecutive day. The merchandise is either carted away direct or sent by rail to the works of the owner or to warehouses belonging to the railroad company, where storage is charged, and there unloaded. The same regulations apply to the handling of export merchandise in seaports.

Harbor property and improvements are usually owned by the cities—for instance, at Hamburg, Bremen, Stettin, Duisburg, Düsseldorf, Frankfort-on-the-Main, etc. The municipal authorities in general are the owners of sheds connected with the tracks (for the use of which rent is charged), where goods may be stored while waiting ocean shipment. All the larger steamship companies have their own sheds or sheds leased by them, in which also goods may be stored up to the day of shipment.

For freight such as structural iron, steel rails, logs, etc., which is usually carried in open cars, there is an open, unimproved space provided. Coal is usually unloaded directly into the steamer without storage. The traffic is so regulated that the cars in the port sheds are unloaded into the steamer without delay. A long detention of freight cars is prevented by handling the latter according to the provisions of the above regulations, so that in Germany there are seldom such delays as frequently occur in the United States.

CANADA.

PROGRESS MADE IN BUILDING NEW TRANSCONTINENTAL LINE.

Consul A. G. Seyfert, writing from Collingwood, says that the construction of Canada's new transcontinental railway from Moncton, on the Atlantic, to Prince Rupert, on the Pacific, a distance of a little more than 3,000 miles, is fully under way, the progress on which he describes:

It is provided that it shall be completed by December 1, 1911, and every effort will be made to accomplish this gigantic work within that time, at a cost of $200,000,000. According to the latest information obtainable of the progress made by the army of 25,000 men at work, the prairie section now under construction will be completed first, and the 794 miles between Winnipeg and Edmonton is to be in operation during the coming autumn. Steel has been laid on 322 miles and by the commissioners for the government section on 75 miles. The expenditure on the government section to date has been $20,000,000.

The commissioners have 955 miles of the eastern section under contract, while the company has laid track on 80 miles of the Lake Superior branch. The mountain section from Edmonton to Prince Rupert, on the northern British Columbian coast, is the most difficult to build and will be begun in the coming spring. The building of the new transcontinental railway from coast to coast in such a high latitude, where more than half of the year a severe winter prevails, is the most stupendous piece of work any country of 6,000,000 people ever undertook. When completed, it will make the shortest route between Europe and Asia by forty-eight hours. It will also mean a change in the geography of Canada. Where there is now a wild, uninhabited wilderness, hundreds of villages and towns will be located in the near future and millions of acres of land occupied and tilled by settlers.

NEW LINE IN BRITISH COLUMBIA.

VARIOUS INDUSTRIES TO BE DEVELOPED—NEW LIGHTING SYSTEM IN USE.

Consul L. Edwin Dudley, of Vancouver, reports that some American capitalists will commence the construction of a standard gage steam railway from Kamloops, British Columbia, to Salmon River, a distance of 40 miles, early next spring, adding:

The original purpose for the building of this line is to provide transportation facilities for the large beds of gypsum on the Salmon River. The plans include a $100,000 plant at Kamloops, where the gypsum will be manufactured into plaster of paris and by-products, employing 200 to 300 men. There are 285 acres of gypsum deposits at Salmon River. The country through which the new railway will pass is, according to experts, particularly well adapted to fruit growing, and it is expected that there will be a great agricultural development in the region.

The Dominion railway commission some time ago issued an order that railways must discontinue the use of acetylene gas and requiring the use of Pintsch gas. The Canadian Pacific Railway has made the changes required. The changes necessary to adapt the pipes and fixtures that had been in use were not many nor expensive, the principal change being in the burners.

OPERATIONS OF DOMINION LINES.

SUMMARY OF THE VARIOUS STATISTICS FOR LAST YEAR.

Consul John E. Hamilton, of Cornwall, has compiled the following summary of the statistics of Canadian railroads for 1907:

Miles in operation	22,452
Double track road (miles)	1,076
Total capital invested	$1,171,837,808
Total net earnings 1907	[a] $42,989,537
Increase in freight traffic (tons)	5,899,420
Increase in passenger traffic	4,147,537
Increase in locomotives	573
Increase in freight cars	17,649
Increase in passenger cars	323
Persons killed in 1907	587
Persons injured in 1907	1,698

GERMAN EAST AFRICA.

GERMAN COLONIAL PROGRESS AS EVIDENCED BY RAILWAY BUILDING.

As the only American consulate in a German possession is situated at Tsingtau, China, Vice-Consul Ernest Vollmer, of that place, appropriately submits the following report on railway development in the African possessions of Germany:

The entire earthwork on the German East Africa line from Dar-es-Salaam to Mrogoro is now complete. Track has been laid over 198 kilometers (kilometer=0.62 of a mile), and only 20 kilometers remain, so that it was hoped to open the entire line for freight and passenger traffic in January. All of the masonry and bridge work is ready, and but 60 kilometers of rock ballasting is incomplete. November witnessed the opening of 180 kilometers of road, as far as Mikesse.

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[a] 3.66 per cent on capital invested.

Reports covering the first year of the Usambara line, also in German East Africa, are very satisfactory. From April to June, 1906, 905 whites and 35,151 blacks traveled on the railway; in the next quarter the numbers had risen to 1,057 and 36,034, respectively; a third quarter again showed a gain, the white passengers numbering 1,306 and the colored ones 39,940, while the last quarter of the first year, January to April, 1907, shows the numbers at 1,518 and 45,000. Freight cargoes have similarly increased in a very satisfactory way, having risen from but 13,000 tons during the first quarter of operations to over 26,000 tons in the last quarter. The only class of goods with a decrease to its account is cattle, the live-stock movement having fallen from 537 head to 62 head in the course of a single year.

WORK ON OTHER NEW LINES.

The Usambara Post reports that active work on the road from Mombo to Moschi, German East Africa, has been suspended for the time being, after all grading on 80 out of the 130 kilometers has been done. The reason assigned for this is that the funds allowed for the work by the German Government are exhausted and a new appropriation has to be awaited.

The railway from Lüderitzbucht to Keetmanshoop, in German Southwest Africa, is nearing completion. The line is being built in three divisions: (1) Lüderitzbucht to Aus, (2) Aus to Feldschuhhorn, (3) Feldschuhhorn to Keetmanshoop. Of these three parts the first two are now in operation and the third is to be completed with an appropriation of some $2,000,000 obtained for the year 1908. The entire cost of the road is over $5,000,000. Most of the line is along the river Baiweg, and rises to 1,602 meters (meter=3¼ feet) at its highest point, falling again to 995 meters at the end station. No great engineering difficulties had to be overcome, and an ultimate extension of the road to Windhœk is planned.

The Otavi railway in Southwest Africa now has 250 freight cars in operation, with which it is enabled to deliver some 10,000 tons of ore from the Tsumeb mines at the port Swakopmund every month. About one-third of the material needed for the line building from Tsumeb to Grootfontein has been delivered by steamer at Swakopmund. The Swakopmund-Windhoek line is being rebuilt to cut down operating expenses.

A private firm is extending the Usambara line, German East Africa, from Mombo to Mafinde, in the hope that the German Government will buy it when completed. The same people are planning a line in Togoland from Lome to Atakpame.

CHILE.

CONTRACT AWARDED FOR NEW LINE FROM CHILE TO BOLIVIAN CAPITAL.

Consul Alfred A. Winslow, of Valparaiso, reports that the Chilean Government has given the contract for the construction of the Arica-La Paz Railroad to a German bank and a German firm for the sum of £3,000,000, and adds:

The line will extend from Arica, the most northern port of any consequence in Chile, to La Paz, the capital of Bolivia, a distance of about 335 miles. The road is to be completed within four years. The Government is to provide the right of way and to admit all material and machinery free that are used in the construction of the road.

It is understood that the only interest the bank has in the matter is that it takes the Government 5 per cent bonds that are to be issued to pay for the construction of the road. This road is to be built in accordance with the treaty made with Bolivia on March 21, 1905, when Chile took over that portion of Bolivia that bordered on the Pacific Ocean. The completion of this road will mean much for the northern part of Chile and the interior of Bolivia, as it opens up some very rich country. [The address of the contracting house is on record at the Bureau of Manufactures.]

ELECTRIFICATION OF STATE ROADS BEING CONSIDERED.

It is announced that the Government has commissioned an American electrical engineer to study the feasibility of changing the first and second sections of the state railways for the use of electrical instead of steam power.

The engineer has left for New York, where he goes after a careful study of the conditions here. It seems that the project might be very practical, as there are several good streams crossed by the railway lines that have their sources in the regions of perpetual snow along the Cordilleras that must have ample fall for limitless power possibilities.

The first section connects Valparaiso with Santiago and is about 100 miles long, and the second section extends from Santiago to Conception, and is about 350 miles in length. Double track is being laid on the first section. At present the coal bills for the state railways are heavy, since a large proportion of the coal used is imported at a high cost. [The New York address of the engineer referred to is recorded at the Bureau of Manufactures.]

RUSSIA.

DOUBLE TRACKING THE TRANS-SIBERIAN LINE.

A report from Vice-Consul Ernest Vollmer, of Tsingtau, says that Russian papers announce that the plans of the ministry of communication for double tracking the Trans-Siberian route have recently been approved by the St. Petersburg Government, and comprise the following:

The plans are to lay a double track from the station of Omsk to Baikal station, and from Tauchai to Karymskaja; to rebuild the mountainous section of the route between Atschinsk and Irkutsk; to increase facilities both for crossing and rounding Lake Baikal; and to raise the general efficiency of the whole line.

The cost of double tracking the line from Omsk to Atschinsk are estimated, exclusive of transportation of goods which necessitates no cash expense, at 28,019,000 rubles (ruble=51½ cents). This means a cost of 27,700 rubles per verst over the distance of 1,132 versts (a verst is 3,500 feet). The cost of the second track on the Trans-Baikal sections will be heavier; from Irkutsk to Lake Baikal and from Tauchai to Manchuria 48,149,000 rubles are needed for the 1,235 versts, or an average of 39,000 rubles per verst.

The same rate per verst is also given for the section of the line to Karymskaja, which would bring the total cost of double tracking the distances from Irkutsk to Lake Baikal and from Tauchai to Karymskaja (883 versts) up to 34,437,000 rubles. The expense of installing an additional track on the Atschinsk-Irkutsk section, together with reconstruction of the mountain section, will cost, exclusive of transportation of material, 57,148,900 rubles. This sum brings the cost of the unaltered line to 31,180 rubles and of the rebuilt line to 83,400 rubles per verst. Aside from all this some 3,000,000 rubles are wanted to better the ferry system across Lake Baikal.

ASIATIC TURKEY.

NEW CONNECTING RAILWAY LINES UNDER CONSIDERATION.

Consul-General G. Bie Ravndal, of Bierut, forwards the following condensation of an abstract from the Times of India, as supplemental to his former reports on the prospective linking of Asiatic and European railways:

> One result is certain to follow from the Anglo-Russian agreement—the revival of the project for the linking of the Indian and Russian railway systems. On this subject it is necessary to readjust some of our conservative ideas. The old isolation of India and the Middle East is being rapidly broken down. There is now a gap of less than 400 miles between our advanced post at Chaman and the Russian terminus at Kushk. Our engineers estimate that the rail-head could be pushed from Chaman to Kandahar in about two months. Undoubtedly the Russian engineers have made similar arrangements to rush their terminus from Kushk to Herat. The section from Herat to Kandahar is the only part of the route that is not now actually provided for.
>
> Nor is it only by way of Kandahar and Herat that through rail connection with Europe is possible. The Bagdad railway project will shortly be revived. The sole obstacle is finance. If the money can be raised the line will be built without delay. Neither is it beyond the bounds of possibility that the Quetta-Nushki line will be pushed forward to join a trunk railway traversing Persia from north to south. The world moves fast in these days. The railway isolation of India can not be indefinitely maintained.

STEAMSHIP LINES.

COLOMBIA.

AMERICAN FLAG ALMOST ENTIRELY UNREPRESENTED IN MARITIME TRADE.

Consul Isaac A. Manning, of Cartagena, furnishes the following statistics concerning the carrying trade of the northern coast of Colombia, and the European steamship lines through which the same is conducted:

Attention is called to the almost complete absence of vessels flying the American flag in the carrying trade of the Northern Colombian coast. In considering this matter it should be borne in mind that the trade between this coast and the United States is already considerable, but it might be greatly increased under favorable conditions.

The records of this consulate show that the total gross tonnage entered at this port, under the American flag, during the seven years ended December 31, 1907, was 27,173 tons, of which 17,977 tons were represented by the cruisers New York and Columbia and the gunboat Machias, leaving only 9,196 gross tonnage of commercial shipping, represented by 10 schooners bringing coal or taking away logs and lumber, one schooner lost on the coast, and one pleasure yacht.

Of the 6 schooners bringing coal all left in ballast; of the 3 schooners carrying away timber all arrived in ballast, while 1 schooner bringing machinery left in ballast.

This is not a very great showing for a period of seven years when one takes into consideration the fact that this port is almost on the coast line of the United States.

CARGO IMPORTS AND EXPORTS OF CARTAGENA.

In order that a clear perception of the business done here by ships bearing the German, British, and French flags may be had, I have compiled the following table showing the cargo imports and exports through the port of Cartagena for a period of four and five years, respectively:

Year.	Imports.	Exports.	Total.
	Metric tons.	*Metric tons.*	*Metric tons.*
1903		10,680	10,680
1904	25,351	15,165	40,516
1905	25,236	10,710	35,946
1906	23,604	12,335	35,939
1907	25,000	20,256	45,256
Total	99,191	69,146	168,337

In the foregoing cargo tonnage the American flag covered about 1,000 tons, taken by schooners from Cartagena. The above shipments do not include cedar and mahogany timber exported during this period, valued at more than $200,000, all of which was shipped to the United States in foreign bottoms, nor does it include large annual shipments of cattle to various West Indian ports. The timber and cattle exports through the port of Cartagena would add at least 10,000 cargo tons per annum to the foregoing.

The vessels engaged in the foregoing carrying trade were: Atlas service, Hamburg-American; direct European, Hamburg-American; Royal Mail S. P. Company; Compagnie Generale Transatlantique; Leyland and Harrison Lines, etc. The routes of the foregoing lines are as follows: Atlas service Hamburg-American Line, New York and West Indies; Atlas service Hamburg-American Line, Hamburg and West Indies, not touching any American port; Royal Mail S. P. Company, formerly made voyage from Southampton, via Cartagena and West Indies, to New York and return—cargo, both inward and outward, was likely about equally divided between British and American products; Compagnie Generale Transatlantique between St. Nazaire and West Indies. The Leyland and Harrison liners bring outward freight for the West Indies, but usually clear from Cartagena, without cargo, for Gulf ports of the United States for cotton.

TRAFFIC AGREEMENT ON MAGDALENA RIVER.

Consul Manning also sends the report that a traffic agreement was signed by the Magdalena River Steamboat Company, which is owned by the same interests as the Cartagena (Colombia) Railway Company, and by the Gieseken interests of Barranquilla, which control the other steamboats of the river, whereby 60 per cent of the Magdalena River traffic is to be given the latter and 40 per cent to the Magdalena River Steamboat Company. This is considered a very important agreement and especially favorable to the local interests of Cartagena.

ARGENTINA.

HOW AMERICAN TRADE WITH SOUTH AMERICA IS HANDICAPPED.

Having reference to his report of a year ago on the need of better shipping facilities between Argentina and South America in general, and the United States, Consul-General Alban G. Snyder, of Buenos Aires, writes:

Attention is again called to the great need which the lapse of a year has not served to remedy in any way. The desirability of direct regular steamship communication between Atlantic ports and the river Plata has long been recognized. The need for such organization has to-day become imperative. The reasons therefor will readily occur to anyone familiar with the requirements of the American export trade and the entire dependence of the river Plata importer on the means provided for getting his imports.

The American exporter sees that to do a properly continued export trade requires a complete organization, devoted exclusively to this branch of his business; his customer must be able to figure on getting his goods when he wants them and at approximately calculated dates, but it will be patent to anyone that it is useless for a manufacturer to have his goods ready for export when he can not get cargo space for weeks or perhaps months to come.

COMPARISON OF TRAMP AND MAIL STEAMERS.

Obliged to depend upon tramp steamers, with irregular sailings, he has the mortification of seeing capital lying idle and goods delayed in shipment, to the detriment of his relations with his customer.

With a properly managed service, with regular sailings, these difficulties could be overcome. As more freight presented itself, the tonnage could be increased. The return freight from river Plata ports would gradually patronize such a line of steamers, as regular sailings always tempt a shipper. An additional advantage would be that such a line would offer a regular mail service direct between points where such a service is indispensable, in connection with commercial matters, and that documents and financial advices would come by the vessels which brought the merchandise. The present uncertainty as to how long correspondence may or may not permit of an answer being received is both perplexing and inimical to the further development of close relations between the river Plata and the United States. The interests at stake are too great to be left to haphazard methods and uncertainties.

IRREGULAR AND INADEQUATE STEAM COMMUNICATION.

Some 2,000 ships entered and cleared at Buenos Aires during the first ten months of 1907, 105 of which cleared for the United States, all foreign ships with the exception of six small sailing vessels. In an editorial in a New York newspaper, it is stated that 170 steam vessels, averaging 4,500 tons, cleared from that port for Brazilian and river Plata ports during the first eleven months of 1907.

These sailings embrace some ten to twelve lines. With a possible single exception these companies do not have regular sailings, and at times it is not possible for the lines themselves to give the date of departure to within ten days. Moreover, up to October, 1907, the regular line steamers only came as far as Rio de Janeiro. Affairs have reached such a point, solely as a result of uncertain shipping conditions, that many people only order from the United States as a last resort, and American exporters frequently pay large forfeits for delay in delivery of orders.

In my opinion one well-established line of American steamers running a weekly or fortnightly service to these ports, with dates of arrivals and departures firmly fixed, and so maintained under any and all circumstances, will do more to establish confidence and promote commerce between the United States and South America than double the number of steamers similar to the present foreign service, which virtually controls our commerce with this continent, and runs it as it will.

Many lines of swift steamers ply between this port and Europe, some subsidized by their respective Governments, and new ships are being constantly built and put in the trade by these companies, and new lines are established from time to time, while the whole of South America, which should be joined to the United States by close commercial ties, is practically isolated, when compared to Europe.

CHINA.

NEW SERVICE TO BE STARTED FROM PUGET SOUND TO ASIATIC PORTS.

Vice-Consul Ernest Vollmer, reporting from Tsingtau, says that it is stated that a new oriental steamship line is planned to run between Puget Sound ports via Victoria and north China to Siberia, the details being as follows:

Two of the steamers will be arranged to accommodate first-class passenger trade. M. Jebsen & Co., of Bremen, are putting these vessels on this route. The vessels are the German steamer Wangard, which at present is carrying coal from Comox to Guayamas under a time charter; the British steamer Maori King, now in the lumber trade from the Pacific coast to Shanghai; and 2 steamers of the Royal Dutch Mail Line to Java—the Prinz Hendrik and Prinzess Sophie—now plying from Amsterdam to Batavia.

These two boats will be delivered at Amsterdam and brought to the Pacific coast in the spring to start at once on the new run. The Maori King, already purchased, will be renamed the Erna and started in the freight business at the earliest possible date. Monthly trips will be maintained by the steamers Wangard, Erna, Tolsan, Eva, and Ilse. The sister mail boats bought from the Dutch were built in England in 1890, and are 360 feet long, 43 feet beam, and 27.7 feet deep. They have a gross tonnage of 3,528, can accommodate 80 first-class passengers, and are reputed to be as comfortable and fast as the Empress boats now running out of Victoria.

JAPANESE SUBSIDY SYSTEMS.

The Nippon Yusen Kaisha is reported to be conferring with the Tokio government regarding a subvention for a European line, which is to compete with existing services for both freight and passengers. As the admiralty is said to desire more fast mail boats under the Japanese flag which could be used as auxiliary cruisers the proposals are meeting with much favor. Owing to the general business depression the same line has recently materially advanced rates on its American and Australian lines.

The Japanese budget for the next fiscal year includes Government subsidies for steamship services including European lines $1,336,000, gold; for San Francisco lines, $506,000; lines to Seattle, $327,000, and for Australian lines, $236,000.

AMERICAN LINE TO DALNY.

A letter from Norton and Son, of New York, agents of the American and Manchurian Line, to the Bureau of Manufactures state that they have dispatched since June, 1907, 11 steamships for Dalny, and for the first six months of 1908 will have two sailings each month, after which they will have one sailing per month.

PERU.

STEAMER AND LAUNCH SERVICE FOR THE RUBBER INDUSTRY.

The following information relative to the advanced manner in which the rubber traffic of the upper Amazon is now transacted, and the present condition of the trade, is furnished by Consul Charles C. Eberhardt, of Iquitos:

In a country of such vast and undeveloped forests as exist in the Upper Amazon waterways are the only avenues of trade and almost the only means of communication for the inhabitants. As a consequence the dug-out canoe became a necessity for the everyday life of the natives, and if accurate accounts of the canoes in daily use on the Amazon and its tributaries were obtainable it would run up into many thousands. Until rubber became such an important article in the world's markets the forests of the Upper Amazon were practically unexplored, produced no revenue worth mention, and Iquitos was but one of many unheard of villages situated on that river and never visited by larger craft than those propelled by the paddle and the oar.

With the opening of the rubber tracts a necessity arose for some other means of transporting the product to market, and the system of steam launches for collecting and bringing it to Iquitos was the result. As a consequence, Iquitos rose to such proportions that a regular monthly steamship service with Liverpool has been established, and the month of October witnessed the inauguration of a similar service with New York. Rubber is virtually the only product carried hence by the steamships, and to bring that rubber to Iquitos steam launches are operated by the merchants of the town. These merchants usually have their "clients," or men whom they have "staked" with provisions, etc., located on the different tributaries of the Upper Amazon, who pay for these provisions in rubber gathered from the forests, the merchants accepting the product at prices prevailing here at the time of delivery.

Ten or fifteen years ago, when the field was comparatively new, fortunes were easily made, but to-day sharp competition, which caused a larger increase in expensive launches, has resulted in small profits, it being said that local merchants are paying higher prices in the Javary River district than those prevailing in Europe. The launch business has been overdone, and there seems a tendency at present to dispose of them; but this seems only a method of remedying a temporary evil of overcompetition, for the launch must continue to play its important part in the business life of Iquitos as long as the supply and demand for rubber exist.

BRITISH NORTH BORNEO.

NEW STEAMSHIP SERVICE BETWEEN PHILIPPINES AND EAST INDIES.

Consul Lester Maynard, writing from Sandakan, says that the Bureau of Navigation, Manila, has placed two vessels of the Philippine Island Coast Guard Service on a regular monthly commercial run from Philippine Island ports to British North Borneo, as follows:

Steamship Panay from Manila via Porte Princessa and Balabac to Kudat, British North Borneo, and returning to Manila via Jurata, Kagayan Sulu. Steamship Negros from Zamboanga via the Celebes Islands (Dutch) and Siassi to Sandakan, British North Borneo, and returning to Zamboanga via Jolo.

Both these routes are subject to alteration, as the object of placing these boats on these runs is to create a trade between the Philippine Islands and neighboring foreign insular territory, and if a trade of sufficient importance can be established, the government vessels will withdraw in favor of some commercial steamers.

The Kudat agents of the steamship Panay are H. Broese Van Groenou and the Sandakan agents of the steamship Negros are Darby & Co.

CANADA.

COASTWISE PRIVILEGES TO BE RESTRICTED TO BRITISH VESSELS.

Consul-General William Harrison Bradley, of Montreal, forwards the following Canadian newspaper article relating to the restriction of the traffic privileges of foreign vessels in waters of the Dominion:

> The protests from the maritime provinces against the continuance of the policy of permitting certain European nations to participate in the coastwise trade of Canada have at last had an effect upon the government. For years Canadian shipping has been declining, largely because of the aggressiveness of some of the countries whose vessels operated in Canadian waters, notably Norway, for whom the door was opened for some years. A few years ago

Canada stood fourth among the nations of the world in point of vessel tonnage. Last year the total Canadian vessel tonnage was 6,541,791, which left her tenth among the ship-owning nations of the world. Norway, Canada's greatest competitor in the coasting trade of the Dominion, was fourth, with a net tonnage of 1,483,802. Other countries enjoying coasting privileges in Canadian waters are Italy, Germany, Netherlands, Sweden, Austria-Hungary, Denmark, Belgium, and the Argentine Republic.

An order in council has just been passed withdrawing on and after January 1, 1909, the existing privileges now enjoyed by all these countries in Canadian waters, and confining the right to carry passengers and freight from one Canadian port to another solely to British vessels.

UNITED KINGDOM.

FOREIGN SAILORS ON BRITISH SHIPS MUST UNDERSTAND ENGLISH.

The British Government issued a notice recently that foreign seamen should not be engaged on British ships in European waters, unless they have enough knowledge of English to understand orders given in that language. It is stated that it has been no uncommon thing to find a ship's crew composed of 8 or 9 nationalities with absolutely no language in common, and perhaps a boatswain who only understands English as "interpreter." The return relating to seamen employed in the British mercantile marine shows 30 English and Irish per 10,000, while Scotland supplies 56 and Wales 44 per 10,000. The proportion of Lascars and foreigners increases, while the British decrease. In the last fifteen years, 1891–1906, there was an increase of 17,103 Lascars (East India sailors), and 11,022 foreigners, and of the British only 510. The recent order as to understanding the English language in European waters it is supposed will cause a decline in Lascars and foreigners.

AUSTRALIA.

NEW SUBSIDY AGREEMENT FOR MAIL LINE FROM ENGLAND.

Consul-General John P. Bray forwards from Melbourne copies of the articles of agreement entered into between the Commonwealth of Australia and the Orient Steam Navigation Company, of England, for the conveyance of mails between Great Britain and Australia. The text of the contract, which is filed for public reference with the Bureau of Manufactures, provides for a subsidy of £120,000 (£=$4.86) per annum, with an additional £4,880 if the voyages of all mail ships are continued to Brisbane.

CHILE.

LARGE INCREASE SHOWN IN MERCANTILE MARINE.

Consul Alfred A. Winslow, of Valparaiso, reports that the Chilean merchant marine is increasing very rapidly and at present is exceeded by that of only one South American country—Brazil—which has a tonnage of 211,194 against 156,316 for Chile. Of the Chilean shipping 107,727 tons are steam and 48,589 sail. It is mostly engaged in the west coast trade of South America. During the year 1906 there was an increase of 30,122 tons in vessels flying the Chilean flag.

NORWAY.

NEW SERVICE TO BE ESTABLISHED BY ENGLISH CONCERN.

Consul Felix S. S. Johnson writes from Bergen, December 6, 1907, that the Great Eastern Railway Company of England intends soon to establish a steamship line between Harwich, Bergen, Stavanger, Christiansand, and N. Trondhjem. At present Bergen has steam communication with the principal Norwegian ports; Hull and Newcastle, England; Rotterdam, Hamburg, and Stettin.

SCHLICK'S GYROSCOPE.

APPARATUS FOR PREVENTING SHIPS FROM ROLLING AT SEA.

In transmitting a newspaper article covering the trials of Doctor Schlick's gyroscope apparatus off the Tyne River during the week ended November 16, 1907, witnessed by the several railway and steamship companies interested in the cross-channel traffic, Vice-Consul H. Nixon, of Newcastle, thinks that the apparatus would be useful on passenger steamers on the American lakes. The following is an extract from the article mentioned descriptive of the working of the apparatus:

The apparatus consists of a heavy fly wheel rotating about an axis which is initially vertical and is carried by a frame which can oscillate about a horizontal axis lying transversely in the vessel, the oscillatory motion of the frame being checked by means of suitably adjusted brakes. The fly wheel is 1 meter (39.37 inches) in diameter, weighs 1,106 pounds, and revolves 1,600 times per minute. There is no electrical installation in the boat, and the fly wheel is driven by steam. The periphery is provided with rings of blades, the wheel being inclosed in a steam-tight iron casing and the whole worked as a turbine. The steam enters and leaves through the trunnions, exactly as in an oscillating engine, while the lower end of the spindle of the fly wheel is carried on ball bearings, and there is forced lubrication to both the upper and lower bearings. A regulator is fixed automatically to cut off the steam at a certain number of revolutions. There are two brakes, controlled by hand wheels on deck; one a band brake, by which the gyroscope can be locked in any position, and the other a hydraulic brake. When the fly wheel is running at its working speed, if the casing is held firmly by the brake, so that it can not swing, any rolling motion of the ship is not affected by the gyroscope. When the casing is allowed to swing, the motion being controlled by one of the brakes, the rolling is immediately checked, and, for all practical purposes, destroyed. Each tendency of the ship to roll is changed into a fore-and-aft oscillatory motion of the gyroscope accompanied by development of heat energy in the brakes.

There is no accumulation of roll, and the ship is to all intents and purposes a steady platform, having only a vertical or heaving motion. Generally speaking, if a rapidly rotating fly wheel is acted on by an external force which moves the wheel into another plane, the inertia of the wheel sets up a motion of the whole in a direction at right angles to the first external force. If this motion at right angles is allowed to take place, it sets up a force again at right angles to itself and equal and opposite to the first external force. Thus, the first external force, due to the rolling of the ship, causes the gyroscope to swing in a fore-and-aft direction, and the swinging sets up a force equal and opposite to the rolling of the vessel. This last-mentioned force is changed into heat in the brakes and the ship is kept upright. If the apparatus were allowed to swing freely, the rolling of the ship would not be checked, but its period of rolling would be lengthened, and this alone would contribute to making the vessel more comfortable.

On Thursday last, although only ordinary sea conditions were encountered, yet the extinctive effect of the gyroscope was conclusively demonstrated. Sea waves up to 6 feet high and 50 to 100 feet in length were met with. The length of the wave was too short to show the apparatus to the greatest advantage, but the maximum roll to each side amounted to about 14° with the gyroscope out of action and the boat was kept steady with the gyroscope in action. [A series of diagrams illustrating the effect of the apparatus and an illustration of the apparatus are on file in the Bureau of Manufactures.]

A WINCH IMPROVEMENT.

BRITISH INVENTION OF IMPORTANCE TO SHIPPING INTERESTS.

Vice-Consul W. J. Sulis, of Liverpool, makes the following report on the practical test of an improved winch at that British port:

There is probably no other part of the equipment of steamships that has given rise to more trouble and annoyance than that of the steam winch. Especially does this apply to passenger vessels, where the present form of winch often intrudes its discomforting noise upon the passengers. Patents for the elimination of this disadvantage are numerous in England, but so far with only qualified success. Anything that can be put upon the market which will do away with the intolerable rattle of the steam winch as it now exists will not only be welcomed by the traveling public, but will prove acceptable both to crews of vessels and to shipowners.

An invention which it is expected is likely to cause a revolution in the manufacture of this class of equipment has recently been on view in Liverpool. The important innovation in the winch consists of the adaptation of the sprocket and chain in lieu of the cog. The sprocket-and-chain system is by no means new in its application to machinery, but it is said to be the first time that it has been applied to a steam winch. The claim of the inventors and also of the manufacturers is that a winch driven by this patent is silent in its working. An engineering expert on behalf of a Liverpool shipping paper witnessed a trial of the patent winch and is of the following opinion:

> Beyond doubt it fulfilled to the utmost extent all that was claimed for it. The nearest approach to noise which attended the lifting of considerable weights was only similar to the burr common to a motor car, and there was a total absence of the nerve-racking rattle and crash associated with the labor of the ordinary steam winch. It is only fair to state also that the experiment was carried out at a time when the patent winch was fixed on a comparatively rough bed. The driving chains were adjusted to a breaking strain of 15 tons. This may not be very much more than the shearing strain of the ordinary tooth-wheeled gear, but there can be no two opinions as to the absence of noise, or the facility with which the chain may be repaired if it carried away, as against both the noise and the difficulty of repair common to the prevailing type of winch.

It is the expectation of the inventors that this new type of winch will be largely taken advantage of by shipowners.

USE OF LIQUID FUEL.

FAVORED BY THE BRITISH ADMIRALTY—USED IN RUSSIAN WATERS.

J. D. Henry, in the London Times, regards the use of liquid fuel on steamships and for engines generally as settled, which he thinks will be a good thing for the oil fields in general. He says:

> It would not be easy to overestimate the importance of the position secured by liquid fuel in naval engineering science. Practically every problem arising

out of its safe storage, complete atomization, and smokeless consumption has been solved, and 1908 finds it permanently established in the British navy as an emergency fuel in battle ships and the steam-raising power which gives the greatest speed in thirty-six of the "coastal" torpedo destroyers and at least five of the "ocean-going" type.

We have this further evidence of the admiralty's confidence in fuel oil—that many oil-fired warships are being built; that the fleet auxiliary tank steamer Petroleum is due in this country with a cargo of Texas oil; and that the new tank steamer Oberon is, on Government charter, bound for Rangoon to load the first full cargo of Indian oil for the admiralty.

Used in conjunction with turbines, it has revolutionized the power and speed ideas of those who are responsible for the steam-raising equipment of the mosquito and scout types. The British triumphs of 1907 were secretly secured while foreign naval authorities neglected the subject; in the future, however, as the result of these successes, oil fuel will be an important naval and engineering subject in every country which has a navy.

Liquid fuel is used extensively on vessels running between Baku, Russia, and Petrovsk and Astrakhan, at the mouth of the Volga, and on that river there are large fleets of oil-fired cargo carriers. The Caspian tank steamers (oil-fired) completed the following voyages between Baku and Astrakhan: In 1905, 4,550; in 1906, 3,631, and in 1907, 4,212. During years of large exports the monthly voyages equaled 900, or 7,200 voyages by liquid-fuel-burning carriers of petroleum and its products for a single navigation.

WATERWAYS AND HARBORS.

CHINA.

INTEREST OF THE PEOPLE AND GOVERNMENT IN CANALS AND RIVERS.

Vice-Consul Ernest Vollmer, of Tsingtau, finds that throughout eastern Shantung and the adjoining Chinese provinces a great deal of interest is being shown recently in the neglected canals and waterways, his details following:

It will be remembered that at the time of the famine of 1906 much suffering could have been avoided if the grand canal and its tributaries had been navigable. At the time famine sufferers were put to work on canals and actually rebuilt and repaired short distances of old silted-up channels. Popular agitation also resulted in the inhabitants of the districts affected getting together and agreeing to raise funds necessary to again make those trade routes navigable for junks. Plans were drawn up and submitted to the authorities, who approved them, but said that the Government, recognizing the needs, would at once attend to the matter itself.

One of the difficulties is in the many likin stations along those parts of the canals which are still navigable. About every 10 miles one of these stations is found and the delay and inconvenience to commerce resulting from them is well-nigh indescribable. Goods under foreign transit passes are now being held up and examined, the officials saying they can not read the documents, and insisting on inspecting the cargoes. If this continues it will soon be practically impossible to get goods of foreign makes into the country at all, as they will neither stand the frequent openings and examining nor the hard overland journey on carts or wheelbarrows over the so-called roads.

HOANGHO RIVER AND GRAND CANAL.

The governor of Honan has called attention to the bridge of the Hankow-Peking Railway over the Hoangho. It seems that the stream is undermining the pillars supporting the bridge and the safety of the structure is threatened. Aside from this the bridge is said to be altering the current so that serious trouble may be looked for. Two officials have been sent from Peking to make a thorough inspection and carry out such relief measures as they may deem advisable.

Provincial officials of Shantung are recently taking a lively interest in the transportation problems of their districts. Acting governor Wu Ting-ping is on a trip to the lower Hoangho and neighboring waters to personally see what is being done in the matter of dredging and improving the waterways. After looking into affairs he will order work done along what he may consider the best ways for getting the greatest results out of the money available.

The salt taotai and inspector of communication of Shantung are also on a trip similar to that of the acting governor. It is the intention of these officials to spend three months in the Chining and Ihsien districts in southern Shantung. Here the salt officials have long complained that the grand canal has become impassable for salt junks. By dredging and deepening the waterway it is proposed to remedy this evil. As both of the officials are interested personally in the transportation problem, it may reasonably be expected that their mission will bear some fruit, and at least some of the old canals be again made navigable.

STRAITS SETTLEMENTS.

VAST SUMS TO BE EXPENDED IN PORT IMPROVEMENTS AT SINGAPORE.

Consul-General Thornwell Haynes reports as follows concerning improvements to be made at the port of Singapore:

Three years ago the colonial government of the Straits Settlements decided to expropriate the Tanjong Pagar docks, one of the most important in the East, consisting of three docks, nearly 2 miles of wharves, foundries, machine shops, sawmills, shipyard for building and repairing, coal sheds of 200,000 tons capacity, electric light plant, tugs, lighters, godowns, warehouses, extensive shore and other unimproved property. All this the government took possesion of in June, 1905, but a disagreement between the government and the company, the former offering $10,000,000 and the latter asking $34,065,500, led to the appointment of an arbitration board which rendered its decision in July, 1906, awarding a total compensation of $15,861,000 to the company. This amount was paid over by the government last July, and a month later the company entered on a voluntary liquidation of its affairs.

CONTRACT PLACED FOR EXTENSIVE PROJECT.

Since the expropriation of these docks the government has had under consideration their extension and improvement, and in November, 1907, the adjudication of the tenders for this huge undertaking was decided upon, the contract being given to John Aird & Co., whose bid amounted to $4,860,174. Their contract calls for the construction of a new wet dock and the reconstruction of the main wharf. The former will contain nearly 4,000 feet of wharfage, with a depth of 30 feet at low water, ordinary spring tides. This will ultimately be extended to 6,000 feet of wharfage. The main wharf when reconstructed will have 4,575 feet, with 35 feet depth at low water. The wall of the dock will be of massed concrete, and that of the main wharf of 20-ton concrete blocks up to the low-water mark, and of massed concrete thereafter. The present contract does not include the construction of any buildings or roads. Owing to the change of contours and the laying out of roadways on an entirely new plan, most of the present godowns will necessitate reconstruction. It is anticipated that the work will be completed in four or five years.

Although much progress has been made at the Tanjong Pagar docks since the government took over the property in 1905, the work about to begin is the first of the improvements, long advocated, toward the provision of first-class facilities for the accommodation of the largest ocean-going liners, their docking and the handling and storage of their cargoes, and the making of Singapore one of the greatest ports in the East.

CHILE.

NEW PORT WORKS WILL MAKE TALCAHUANO PROMINENT.

Consul Alfred A. Winslow, of Valparaiso, reports that the Chilean Government has just closed the following contracts for port improvements at Talcahuano:

The construction of docks and approaches was awarded to Don Emilio Ricart for $292,000 United States currency, and the erection of sheds and customs storehouses to Don Antonio de la Fuente at a cost of $55,845. The latter are to be completed within one year and the docks and approaches within three years. A large dry dock has been constructed at this port for naval purposes, and it is proposed to make this the principal naval station, as it is one of the safest ports along the coast and is located near the native coal supply.

When these improvements are finished, Talcahuano will have one of the most up-to-date harbors in Chile. It is destined to become a strong rival of Valparaiso as a port for the business of the agricultural and industrial region to the south of Santiago. The business of the port of Talcahuano has increased very rapidly of late, as indicated by the customs receipts, which show an increase of about 30 per cent over 1906.

BRITISH INDIA.

EXTENSIVE DOCK IMPROVEMENTS TO BE MADE AT CALCUTTA.

The dock accommodations of Calcutta, according to Consul-General William H. Michael, are to be improved to an extent that will cost $40,000. New moorings will be required to meet the requirements of a much larger class of vessels, and this, in addition to the above, will cost $10,666. The business by sea of Calcutta is increasing at such a rate that larger and more complete dock accommodations are demanded. Laborers' quarters with 320 rooms will be constructed at the dock, at a cost of $21,600.

MOTOR VEHICLES.

UNITED KINGDOM.

APPARENT OVERDEVELOPMENT OF THE INDUSTRY IN EUROPE.

Consul Albert Halstead, of Birmingham, states that a report has reached that English city that preliminary steps are being made looking to the combination of several of the larger manufacturers connected with the German motor industry. The consul's report continues:

This is said to be the result of unfavorable sales, due to foreign competition and difficulties in the matter of capital. In connection with this report it is interesting to note that people concerned in the motor industry in the United Kingdom are beginning to believe that the productive power of the industry here has finally equalled and will soon—if it has not already done so—exceed the demand. Purchasers do not now have to wait for their motor cars; as a rule manufacturers are able to deliver to purchasers almost immediately after an order has been received.

There has been a change in the methods of purchasers of motor cars. The idea that one who can afford to do so must have a new motor car every year is disappearing and purchasers are contenting themselves with motors that have satisfactorily met their requirements, instead of feeling that they must have every new device. This is regarded as a natural development partly due to the perfection which motor manufacture has attained. British builders appear to be devoting more attention to the manufacture of cars that will come within the means of people of comparatively moderate income. There is some apprehension that the great productive capacity of the industry in the United Kingdom may result in embarrassment for some motor manufacturers.

The British motor industry has had what is deemed a good year, though the unfavorable summer weather affected it somewhat unfavorably, as it did most decidedly the bicycle industry.

FRENCH AND AMERICAN MARKETS.

Reports from France indicate that the productive capacity of the French motor industry has considerably exceeded the market for French machines. In the natural course of events the immense development of motor manufacturing in the United Kingdom, Germany, France, and Italy would result in a decided effort to sell more machines in the United States, but the success of the industry in the United States and the fact that there appears to be more American cars sold abroad, together with the duty of 45 per cent on motor cars entering the United States, and the present American financial depression, naturally offset the tendency of foreign manufacturers to cultivate the American market to a greater extent.

The situation of the motor industry in the United Kingdom, as well as on the Continent, is such as to make the future most uncertain and to later bring about business difficulties such as affected the cycle trade some years ago, but perhaps to not as great a degree. It is not unlikely that greater attention will now be paid in the United Kingdom to the manufacture of motor cars for commercial purposes, which has not been a neglected side of the industry in the United Kingdom, and this should tend to make the industry more permanently stable.

RENARD ROAD TRAIN.

TRIAL OF A NEW METHOD OF TRANSPORTATION IN IRELAND.

A report from Consul Alfred K. Moe states that there was recently tried in Dublin the new Renard road train, and that those interested in the problems of transportation in Ireland, apart from the railway companies, regarded it as having great possibilities for the development of the country districts of the island, which leads the consul to describe its operations:

The train is composed of a 75 h. p. motor, two coaches for first and second class passengers, and a car for freight. The passenger coaches have accommodation for 30 persons each; the freight car is of large capacity, and in this country would be fully adequate, for the present at least, for taking all freight offered. There are several features of the working mechanism which are not to be found in ordinary steam rail locomotion. For one thing, the engine generates the power and moves itself, but each car is fitted with a device which removes from the engine much of the labor of traction and applies its own motive power, thus materially reducing the weight of the tractor.

Direct from the motor runs a continuous shaft with flexible couplings, and as the power is transmitted to the separate driving mechanism of each car the haulage does not fall upon the motor direct but distributes itself throughout the train. Each coach has a self-contained steering mechanism operated by the vehicle immediately preceding it, the direction of the whole train being determined by the action of the motor, and in consequence the effect is much the same as if the whole contrivance were on rails. The coaches have the same appearance as the railway coaches, but are considerably smaller. The wheels of all the cars are fitted with rubber tires.

SPEED AND COST OF OPERATION.

The train can on an average cover from 12 to 14 miles an hour. Recent trials at Antwerp show that one motor car and three coaches can be run at a cost of about 3 cents per mile per ton. The 75 h. p. motor is said to be capable of hauling, under this system, from 16 to 20 tons. The experiments at Antwerp brought out, further, that the total daily working expenses, including depreciation at 20 per cent, came to about $14.60. One of the newspapers here makes the following comment:

> As a solution of the problem of mechanical transports, the train is beyond question worthy of the serious consideration of all public or private bodies concerned to any great extent in road transit. The difficulty and expense of speedily moving heavy goods over all kinds and conditions of road apply with peculiar force to Ireland, and undoubtedly some system of a more effective character than that provided by the ordinary traction engine is required.

The difficulty of transportation, both as regards freight and passengers in Ireland, the high rates and fares, and the very inadequate service supplied by the railways, offers a choice field for the first individual or company with courage and money enough to develop a system which will give the people of Ireland a chance to become factors in the agricultural and industrial life of the country, from which they are at present excluded by excessive railway charges. Only a powerful and well-equipped company could prevail over present economic conditions, but a golden harvest awaits anyone who will go into the exploitation of this particular field. Our large American automobile companies should not neglect an opportunity of this kind. Ireland is at present a comparatively poor country, but with a few advantages of transportation and access to markets she would become industrially prominent. The field is here awaiting the first tiller.

AUTOMOBILE OMNIBUS TESTS.

UNSATISFACTORY RESULTS IN BRITISH CITY PASSENGER TRAFFIC.

Consul Frank W. Mahin, of Nottingham, states that a year or two ago an intense discussion was carried on between the advocates of motor omnibuses and street cars as to their respective merits, the practical results of which he points out:

Only time could serve as umpire in the controversy and judgment is now claimed by the advocates of the street car. Reports from different parts of the country—notably London—where motor omnibuses have been used are adverse in several particulars. Their noise and odor and the alleged injury to the value of property on streets through which they ran were objections from the outset. Now we are told of declining values of motor-omnibus shares, of companies tottering on the verge of bankruptcy, of vehicles being retired after patient trial for failing to maintain required standards, and of money losing ones being almost "scrapped" for lack of a buying market.

The city of Nottingham has experimented with three motor omnibuses for the past two years, traversing parts of the town not served by street cars, with the view of extending the service if results were satisfactory. The receipts have averaged 20½ cents per mile traveled; the street-car average, 25 cents per mile. The receipts of the three omnibuses were $1,263 less than the working expenses during the last corporation year, leaving nothing for depreciation or interest on capital. The street cars yielded a net profit of $82,730, after allowing for depreciation, interest on capital, and other charges. Against the street-car receipts of 25 cents a mile were working expenses of 14½ cents a mile; the omnibus receipts of 20½ cents a mile were offset by working expenses somewhat larger—the official accounts do not state precisely how much.

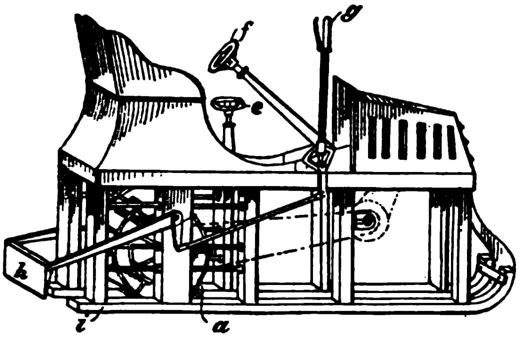
The result of the experiment precludes all thought of extending the motor-bus service in this city. A misfortune for the motor omnibus is the rising cost of petrol. This alone without other cause would seriously affect it.

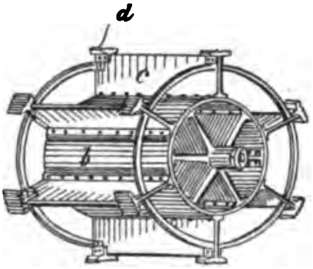
AUSTRIA.

IMPROVED SLED WHICH EXTENDS SNOW MOTORING.

Consul-General W. A. Rublee, of Vienna, advises that a motor sled recently patented by an Austrian inventor named Rantasa is stated to be superior to other sleds of this kind, which leads him to furnish the following illustrated description:

Hitherto it has been possible to use motor sleds on level ground over well packed snow or ice surfaces. The Rantasa motor sled, on the other hand, can be utilized on fresh fallen, deep snow, as well as on rising grades. The propulsion of the sled is accomplished by a paddle wheel driven by a motor which is placed under the rear part of the sled, as shown in the accompanying illustration.





The main parts of the wheel are, first, a cylinder *b*, which is attached to the hub by two rows of spokes; second, paddles *c*, which are attached to the surface of the cylinder. These two parts cooperate in motion in such a manner that the cylinder constantly presses the snow and thereby increases the resistance that the paddles find when they come in contact with the snow. When the sled is to be used on ice surfaces, segment gears with sharp points are provided upon the ends of the paddles. In order to adjust the paddle wheel to different depths of snow the hand lever *e* is used.

To prevent the breaking of the paddles on uneven ground the axle of the paddle wheel is placed on springs on both sides. The sled is steered by the hand lever *f*, which moves the paddle wheel along its axle. The sled is stopped by the lever *g*, which operates the brake *h*, and this also serves to regulate the speed.

With a sufficiently powerful motor and broad enough runners the motor sled can ascend steep grades. It is claimed that it is the only motor sled yet constructed that can be operated on any snow or ice surface and that can be used on rising grades. An average speed of 30 kilometers (18.64 miles) can be maintained by this motor sled.

ECUADOR.

PROSPERITY OF GUAYAQUIL'S STREET LINES—NEW ELECTRIC TRAMWAY.

Vice-Consul-General Robert B. Jones, of Guayaquil, makes the following report on the street-car systems of that Ecuadorian port:

The board of directors of the Guayaquil Tramway Company, a mule car line, announced that on January 1, 1908, its capital stock would be increased from $250,000 to $375,000 United States currency. Up to the present time this company has had a monopoly of the street-car business of this city, and for some years past has paid to its stockholders about 20 per cent annually in dividends. The increase in the capital stock will be effected by calling in and canceling the present certificates of stock and issuing new certificates to the holders thereof, who will receive three shares of the new stock for each two shares of the old.

Work on the new electric street-car line has been resumed and is being pushed to completion as rapidly as possible. It is expected that a portion of it will be in operation early in 1908. The charter for this line was granted by the city some months ago to an independent company. It is believed that eventually the new company will either absorb the old company or be absorbed by it, and that the whole system will then be electrified.

WORLD'S AUTOMOBILE TRADE.

CRISIS IMMINENT BECAUSE OF OVERPRODUCTION OF LARGE MACHINES.

Consul R. E. Mansfield, writing from Lucerne, Switzerland, states that there is a general feeling among automobile manufacturers and dealers in Europe that a crisis in the automobile trade is imminent. The consul continues:

In France, Germany, Italy, and Switzerland there is talk of lack of demand, large stocks, and financial stress. Present conditions and indications in the automobile trade are similar to those existing in the bicycle business some ten years ago, which resulted in radical changes in prices and the financial distress of many firms and individuals engaged in the business.

The belief generally prevalent that prices will be cheaper next season is given as a reason by many intending purchasers and agencies for not placing orders in advance. As a result many of the large factories and warehouses find themselves with a heavy stock of 1907 models on hand with little prospect of disposing of them, except at a very low figure. Both manufacturers and dealers are confronted with the problem of disposing of stock to make room for the product of 1908.

Various reasons for the present situation and threatened crisis are offered by those engaged in the industry, among which are over-production, especially in large motors, and the cost of maintenance. In the past few years there has been a struggle on the part of manufacturers to keep pace with the demand in Europe for high-power, high-priced machines. The demand seemed unlimited, prices were high, and profits exceptionally good on that class of vehicles. To meet the unusual demand, and encouraged by this temporary prosperity, many new factories were erected, and existing firms increased the capacity of their plants and supplied them with expensive equipment for the production of large autos. Wherever factories were erected the large, rapid, and luxurious vehicle was planned, so that Italy, France, Germany, Switzerland, and Belgium are now in the position of producing a stock of large machines beyond the needs or rather the means of the times.

BURDENSOME MOTOR MAINTENANCE—ECONOMICAL MACHINE PREFERRED.

The expense of upkeep of powerful motors is one cause of the stagnation of the trade. Even very rich people weary of meeting the expenses incident to maintaining a heavy automobile in constant use. People are learning the lesson that speed costs money, especially speed with weight. Autos are no longer a novelty, and even the enthusiast is beginning to appreciate the fact that speed is not the only desirable feature of motoring. The fast and daring driver, though frequently ignorant of the mechanism of his motor, has been regarded by many as a necessity in the automobile world, and has been responsible to a large extent for the unnecessary and unreasonable expense of indulging in this pleasurable and desirable method of travel.

Out of the crisis that is inevitable in the trade will come the more practical and perfect automobile, the small, economical, but speedy car, possessing all the qualities that reasonable people want or can desire. In addition to the changes in the weight and power of machines which common-sense conditions are forcing upon the trade, denatured alcohol or naphtha will take the place of petrol, which is an important item in the upkeep of autos, thereby greatly reducing the cost of fuel.

Manufacturers who are not totally blind to the fact that opinions are changing among purchasers are studying the economical machine of small power, capable of doing all that ordinary people require. Chemists are experimenting with fresh fuels, and the tire makers are looking for fresh materials or processes of fabrication. All this will result in the cheap automobile, and makers who are working toward such ends have no reason to fear the impending crisis in the trade.

TRADE PERMANENCY—AMERICAN BENEFITS.

As a vehicle of pleasure and utility the automobile has come to stay and there is still a great future for the motor trade, in fact, it may be said that business is only just beginning, for when the question of the private vehicle has been satisfactorily solved there will remain that of the industrial wagon and van, asked for by thousands of firms and so far only imperfectly supplied.

The American manufacturers and exporters of automobiles will benefit by the crisis in the trade in Europe, when it comes, for the reason that as a rule the American machine is lighter, and is built along lines better suited to the demands of the future than are the majority of European autos. And as compared with the prices of Continental cars, the American motors are cheaper, which recommends them strongly to the popular trade.

As in case of the bicycle, the automobile is passing through a peculiar evolution of trade, the result of which will be radical changes in conditions and consequent reduction in prices. The auto has passed the faddist's stage and entered upon the common-sense, practical basis of competitive business, in which the United States will soon become the leader, because of superior facilities for mechanical production.

INDUSTRIES AND LABOR.

INDUSTRIAL WORLD.

ENGLAND.

HISTORY OF THE REDDITCH NEEDLE INDUSTRY—OUTPUT AND WORKERS.

In reply to inquiries concerning the manufacture of needles in the English town of Redditch, Consular Agent William U. Brewer furnishes the following information:

The origin of the establishment of the needle industry in Redditch is uncertain, but recent researches seem to show that the art of needle making was probably first taught to the inhabitants by the monks of the Cistercian Abbey of Bordesley, which was a large religious house existing on the outskirts of the present town of Redditch, and which was dissolved in 1538. The growth of the trade, however, must have been very slow, and it was not until toward the end of the eighteenth century that the bulk of the English needlemaking industry was concentrated in and about Redditch.

Prior to that time, and for some time later, the manufacture of needles was carried on in the houses of the workers, scattered over a rather wide area. The workers drew their materials from the warehouses of the earlier "masters," and returned the finished products to the same warehouses. This practice was continued until toward the middle of the nineteenth century, when the gradual application of more elaborate tools and machinery to the trade, and the consequent need of more capital, caused the establishment of factories of the modern type. About this time a considerable migration of needle makers into Redditch took place from the village of Long Crendon, Buckinghamshire, where the manufacture of needles had been long practiced; these workers no doubt brought with them practices that had been previously unknown in Redditch.

REQUIREMENTS OF NEEDLE MANUFACTURE.

The trade of needle making is one requiring a great nicety of manipulation, and there is little doubt that the dexterity of the workers is to some extent transmitted. It would be difficult to establish this necessary dexterity among an entirely inexperienced body of workers. There are no peculiarities of climate in Redditch that are not common to other parts of England, but the necessity for some handling of the bright polished needles would make the trade difficult to carry on in any climate having a high summer temperature, and the Redditch manufacturers experience considerable trouble from rust, arising from handling their needles when the temperature is unusually high. Many workers have to be rejected because they have habitually moist hands, but it seems probable that the conditions of the trade tend to produce workers in certain families having suitable hands.

The population in 1901 was 13,493. Of this number probably about one-half were connected directly or indirectly with the needle industry. Many of the needle factories are engaged in the manufacture of articles which have apparently little connection with needles, but of which the manufacture has long been associated with that of needles, such as fishhooks and all kinds of fishing tackle. The town also carries on an extensive manufacture of cycles and cycle parts.

There are 42 individuals and firms described as "needle manufacturers" in the Redditch directory, but some of these are probably only merchants, and some of the firms have no independent existence, but are the property of other firms or corporations. There are no records available from which the correct number of employees can be obtained. The number probably does not exceed 3,000.

EXTENT OF FACTORY OPERATIONS.

The largest factory is estimated to produce needles to the value of $292,000 per annum; all other factories do not aggregate probably more than $584,000 per annum. These figures are, however, quite conjectural, as there are no published returns from which they can be ascertained. The needle industry extends over a group of villages extending over an area of about 7 by 3 miles. The headquarters of the principal firms are, however, situated in Redditch.

The wages of the needle workers are relatively high, the work generally needing considerable intelligence and neat methodical habits. A large proportion of women are employed, the light and clean character of the work being well suited to their special capabilities. The workers are well housed, well clothed, and generally thrifty and self-respecting. The trade is of a staple character, ensuring regularity of employment and wages. Most of the work is done by "the piece." The modern factories are spacious and well ventilated, warmed, and lighted. The usual hours of work are fifty per week.

There are no available statistics of the annual output of needles in the district; it is probable that it exceeds 2,000,000,000, but that it is less than 3,000,000,000. Needles are supplied by Redditch to every country; but, since Redditch factories do not generally produce the cheapest qualities, their markets are principally with the wealthier communities.

BELGIUM.

COAL AND METAL PRICES—BRIGHTER TRADE PROSPECTS.

Consul H. Abert Johnson, of Liege, under date of December 17, furnishes the following review of the fuel market and metal industries of Belgium:

Owing to the generally unsatisfactory condition of the industrial situation, due to the baneful effects of the recent financial disturbance, it had been hoped by metallurgic and glass interests that coal prices would decline before next spring. However, as financial conditions already show signs of improvement that must necessarily prove beneficial to the industries of the country, it is hardly probable that coal prices will fall below the present level. Owing to the shortage in the domestic supply, there has been of late a decided increase in the importation of foreign coal into Belgium, and prices appear to be mainly controlled by the British market.

Prices at present for hard coal range from $2.80 for the small sizes to $6.37 for the size designated as "tête de moineau" (sparrow heads). Prices for bituminous coal range from $2.90 to $6.37, according to size. Briquettes at $4.15 to $5.73 are in active demand, in spite of strong competition from Germany. There seems to be no falling off in the demand for domestic coal, although the winter so far has been unusually mild and there are no indications of especially severe weather for the future.

In the metallurgic industries conditions are happily beginning to show slightly encouraging signs of improvement. This tendency toward better conditions comes none too early, as matters had reached a deplorable state and serious misgivings were entertained as to the future. Many concerns had been obliged to curtail their production, and wages have been reduced as much as 10 per cent, so it is easily understood that the faintest hope of improved conditions is hailed with joy.

Merchant iron was recently held at $26, while the minimum price asked for merchant steel was $24.30. A decrease in the price of blooms is expected as a result of a meeting of the producers shortly to take place with a view to establishing prices for 1908.

The International Syndicate has reduced the price of beams for export by $2.40, making present quotations $26.46, which is subject to a further reduction dependent upon the place of destination of the shipment and the amount of outside competition to be encountered. This reduction may in some cases amount to 48 to 74 cents. The price of rails has been kept at $27.98 for steel and $28.71 for iron rails, subject to slight variations according to the importance of the order.

Rolling mills have work enough on hand to keep them busy for some months, as orders for rails are coming in from Egypt, China, and the countries of South America. Builders of railway rolling stock are also well supplied with orders, but present prices are far from remunerative, and in some cases orders are executed at a slight loss.

BRAZIL.

NUMBER AND CHARACTER OF MANUFACTORIES IN THE REPUBLIC.

Deputy Consul-General Joseph J. Slechta, of Rio de Janeiro, reports that in a recent debate in the Brazilian Congress, on the subject of amendments to the tariff, the following statistics were presented, as tending to prove that the manufacturing industries of the Republic had reached a stage demanding tariff protection:

The following table gives the estimated number of industrial establishments in each State and the aggregate capital invested therein:

State.	Number of establishments.	Amount of capital invested.	State.	Number of establishments.	Amount of capital invested.
Federal District	600	$44,220,000	Alagôas	30	$2,074,000
São Paulo	184	36,910,000	Parahyba do Norte	23	1,291,000
Rio de Janeiro	188	19,620,000	Ceará	25	1,128,000
Pernambuco	100	13,420,000	Amazonas	15	762,000
Rio Grande do Sul	215	11,280,000	Sergipe	26	1,788,000
Bahia	120	9,150,000	Piauhy	7	701,000
Maranhão	25	3,660,000	Rio Grande do Norte	15	274,000
Parana	126	3,599,000	Espirito Santo	5	60,000
Pará	30	2,440,000	Total	2,397	163,349,000
Minas Geraes	523	8,230,000			
Santa Catharina	140	2,592,000			

Those products given as the most important in each State were as follows:

Federal District: Textiles, cordage, furniture, white clothing, lumber and cabinet work, hats, umbrellas, shoes, soap, candles, chemical products, preserved food, beer, chocolate, biscuits, glass, paper, and leather goods.

São Paulo: Same as in the Federal District, and in addition, sugar, lard, lime, cement, and agricultural implements.

Rio Grande do Sul: Same as in the Federal District, and, in addition, meat products, wines, iron safes, stoves and other foundry products, and agricultural implements.

Minas Geraes: Same as in the Federal District, and, in addition, dairy products, meat products, lime and cement, wax, and iron foundry products.

Bahia: Same as in the Federal District, and, in addition, tobacco manufactures, sugar, and wax.

Alagôas: Textiles, sugar, leather, and wine.

Santa Catharina: Same as in the Federal District, and, in addition, alcoholic products, berve-matte, and tobacco.

Parana: Same as in Santa Catharina, and, in addition, matches.

Rio de Janeiro: Same as in the Federal District, and, in addition, dairy products.

Pernambuco: Textiles, sugar, leather, shoes, food products, and tobacco.

Sergipe: Same as in Pernambuco.

Pará: Textiles, beer, soap, chocolate, and wax.

Parahyba: Same as in Pernambuco.

Ceará: Textiles.

Amazonas Maranhão, Rio Grande do Norte, Piauhy, and Espirito Santo: Miscellaneous.

CHINA.

KWANTUNG BRICK FACTORIES—LARGE OUTPUT FROM PRIIMTIVE KILNS.

Consul Roger S. Greene, of Dalny, reports that the manufacture of bricks is one of the principal industries of the Kwantung Leased Territory, and owing to the scarcity of lumber in that region it is likely to continue to be of importance. The consul continues:

At present old-style methods of forming the bricks and baking them prevail, with the result that at times like the present when the demand is great and quick work is required, an inferior product is turned out, especially as much of the clay used is of poor quality. Machinery is not in use at any of the factories, though a few old out-of-repair machines are left from the Russian times. In only one are there really modern kilns operated. Primitive Chinese kilns are mostly used, though there are also a few of a Japanese style called "Nobori," in which there is a series of connected chambers, each a little higher than the one preceding.

There are now 15 brickyards in and near Dalny, 10 operated by Japanese and 5 by Chinese. It is difficult to state their exact capacities, but they vary from roughly 30,000 to 1,200,000 bricks per month. Their total output is estimated roughly at 40,000,000 bricks per annum. These factories work only from six to eight months in the year, closing in the winter on account of the cold, which makes it impossible to work up the clay. At Port Arthur there are 8 brickyards, 1 of which is worked by the provincial prison, and 3 others are leased by private individuals from the Government. The industry there is on a smaller scale than at Dalny, the total yearly output being probably not more than 4,000,000 bricks, and there is probably comparatively little chance of its being greatly extended in the near future.

At Kinchow, the third center in this district, there are 10 brickyards, all operated by Chinese, and all small, their yearly output varying from 20,000 to 60,000.

With all this activity there seems to be an opportunity for the introduction of modern brick-making machinery in Kwantung Province, more especially in the neighborhood of Dalny, among the more enterprising and up-to-date Japanese manufacturers. One lessee has informed me that he hopes to buy such machinery in the near future, and there are likely to be other similar opportunities. Should any American manufacturers wish to take up this matter a list of the factories forwarded may prove of some value. There is one foreign (Anglo-American) firm here dealing in machinery on a considerable scale. [All the names referred to, as well as the leading Japanese importers of Dalny, are registered at the Bureau of Manufactures.]

JAPAN.

EUROPEAN CAPITALISTS MAKING NUMEROUS INVESTMENTS IN EMPIRE.

Vice-Consul Ernest Vollmer, writing from Tsingtau, says that a Frenchman has recently managed to complete with the assistance of the Japanese Government one of the largest Franco-Belgian money syndicates in the Far East, of the operations of which he gives the following account:

The capital of this new Syndicat Industriel de l'Extrême Orient is advanced mainly by the following Belgian and French banks: La Banque de Paris, La Banque l'Union Parisienne, La Banque d'Outremer in Brussels, and La Compagnie Internationale d'Orient in Brussels. At present there are 15 men from these institutions traveling about in Japan and thoroughly examining the economic conditions of the Empire, as well as the industries which are already taken over by the syndicate, or the acquisition of which is contemplated. The following concerns have been taken over and are being operated by the new concern:

(1) A brush factory in Osaka, with a paid up capital of $150,000 gold. The company was organized and has been operated by one of the syndicate promoters for years, but is now to be largely improved. Ownership of old stock is reported to be three-fifths French, and one-fifth each American and British.

(2) The East Asiatic Forest and Wood Company, with a paid up capital of $425,000, said to be two-thirds French, and one-sixth each British and Japanese. The company has valuable concessions in many parts of Japan, and is reported to be ordering modern saw mill machinery from France.

(3) A pressed stone and concrete-block company with a paid up capital of $150,000, two-thirds French, one-third Japanese. This company claims to have a fine modern process, already patented in Japan, and is ordering quantities of new machinery from France.

Aside from the old enterprises taken over the new syndicate has organized:

(1) A window-glass factory at Osaka, with $750,000 capital, equally divided among Japanese, French and Belgians.

(2) The Orient Rubber Company, with a capital of $500,000, equally divided among French, Japanese and British.

It is the intention to start a syndicate bank in Tokyo as soon as plans can be completed. This institute will have a capital of £2,000,000 (£=$4.86) and prominent Japanese financiers as Shibusawa and

Okura will be interested, but aside from them only Frenchmen. Plans are also entertained of dock yards at Moji, where the coal fields are close at hand, and the Korean and Chinese ports are also easy of access.

GERMANY.

BOTTLE-MAKERS' ASSOCIATION JOINS THE INTERNATIONAL CARTEL.

Consul Carl Bailey Hurst, of Plauen, makes the report that among the many cartels in Germany that of the glass bottle manufacturers has recently joined in an international coalition with the affiliated interests in Austria, Belgium, Denmark, England, France, Holland, Sweden, and Norway, which is named the European Union of Bottle Manufacturers Company, with Limited Liability. The consul continues:

The capital of 1,000,000 marks ($238,000) has been raised to 6,000,000 marks ($1,428,000), and will probably be still further increased in order to purchase the new patents for the making of bottles by machinery. A single machine can produce about ten bottles a minute, doing the work of thirty glass blowers and requiring only one workman to manage it. The board of directors of this international cartel is composed of members from the countries mentioned.

The union at present represents an annual output of 1,428,500,000 bottles, which, at the average selling price of 10 pfennigs ($0.0238) each, means some 140,000,000 marks ($33,320,000), divided among the various countries as follows: Germany, 53,000,000 marks ($12,614,000); England, 30,500,000 marks ($7,259,000); France, 29,500,000 marks ($7,021,000); Austria, 16,000,000 marks ($3,808,000); Holland, 7,000,000 marks ($1,666,000); Sweden and Norway, 3,200,000 marks ($761,600); Denmark, 2,400,000 marks ($571,200), and Belgium, 1,250,000 marks ($297,500).

The field of operations of the new cartel apparently embraces all countries except the United States, Canada, and Mexico. One of the strong reasons for the establishment of this international union, it is asserted, lies in the hope to combine against American competition, and overtures have lately been inaugurated with a view to reaching an understanding with American interests in order to regulate the bottle trade of the world.

The sale of bottles by the various manufacturers will be in no way changed, although the selling price will be fixed by the new union. On account of the revolution that the manufacture of bottles by machinery is likely to bring about, the new cartel has regarded it as a duty, in order to avoid the abrupt discharge of thousands of workmen, to introduce the new machines gradually.

AUSTRALIA.

PRODUCTION IN THE STATE OF VICTORIA.

Consul-General John P. Bray, of Melbourne, forwards a statement (for the particulars of which he is indebted to the Government statist) showing the great productiveness of the Australian State of

Victoria during the three years from 1904 to 1906, inclusive. He says:

It will be seen that in the three years mentioned in the following table the value of the products of the State, with an area of 87,884 square miles and population of 1,237,998, amounted to almost $500,000,000:

Produce.	1904.	1905.	1906.	Total.
Cultivation: Cereals, seed, root crop, hay, straw forage, tobacco, grapes, raisins, currants, wines, hops, fruits, etc	$30,251,201	$37,610,361	$36,871,260	$104,732,828
Dairying and pastoral: Milk, butter, cheese, horses, cattle, sheep, and pigs produced, wool	51,070,549	52,740,256	62,468,263	166,279,068
Mining: Gold, coal, stone, salt, etc	16,644,092	16,358,520	16,813,057	49,815,669
Forest produce: Lumber, firewood, and tanning bark	2,971,325	2,855,297	2,932,402	8,759,024
Miscellaneous: Honey and wax, poultry produced, rabbits and hares, fish	8,397,491	8,566,748	8,622,888	25,587,122
Total value of primary products	109,334,658	118,131,177	127,707,876	355,173,711
Manufacturing: Added value during process	44,699,961	47,016,478	50,158,835	141,875,269
Grand total	154,034,619	165,147,650	177,866,711	497,048,980

CONDITIONS IN NORTHERN TERRITORY.

DEVELOPMENT EXPECTED TO FOLLOW FEDERAL CONTROL.

Consul F. W. Goding, of Newcastle, reports that although South Australia has had control of the immense area of the Australian Northern Territory for forty-four years, very little development has been made, the present population consisting of 1,204 whites and 2,300 Chinese. There are now 354,000 cattle, 17,800 horses, and 36,000 sheep depastured in the territory, while gold and other minerals to the value of $11,630,559 have been raised and exported. The present debt is $17,032,750, and the annual loss is $695,043, to meet which it would be necessary to double the existing land tax. The federal government is arranging to assume control of the territory, after which it is expected inducements will be offered to immigrants and capitalists.

MEXICO.

DROUGHT AND DULL MARKET AFFECT GOAT RAISING IN DURANGO.

Consul Charles M. Freeman, of Durango, gives the following account of the present market conditions of the goat-rearing industry of the Mexican State of Durango:

The past year has, on account of the extended and sharp drought in this part of Mexico, been one of the poorest in many years for those engaged in goat raising. For that reason a person contemplating an investment in that business in this State can buy goats, either fat or thin, at greatly reduced figures from the usual price. The average price in Mexican currency ($1 of which is worth 49.8 cents American) is from $3 to $4.60 each for fat and from $2 to $3 for thin goats. At present fat goats can be bought for $2.75, and the best thin ones for $2.

Goat hides are selling for $1 per kilo (2.2 pounds). The usual price is about $1.75. On account of the financial conditions prevailing in the United States, which is the market to which all goatskins are exported from this consular district, the price has dropped. Only one firm is buying. The lack of feed compels breeders to kill or sell at the best obtainable prices. The two conditions which breeders have had to meet, namely, the drought and the closing of the hide market, makes an opportunity for a person contemplating an investment in the business.

Goat herders are paid $10 per month and rations, the latter costing about $7 more. Kids are dropped once each seven months and the average per 1,000 nannies is about 1,300 every seven months. Of the kids dropped 90 per cent are saved by careful herders. Land suitable for breeding goats is not, so far as can be learned, on the market for lease. There are several tracts of land in this vicinity which are called good goat land for sale, but none containing 500,000 acres. In usual years the tallow obtained from the goats killed pays for all expenses of raising. The hides and meat may be considered profit. Tallow is worth 35 cents per kilo.

CANADA.

EXTREME BUSINESS DEPRESSION IN COLLINGWOOD.

Consul A. G. Seyfert reports that the industrial conditions in the Canadian lake port of Collingwood are substantially paralyzed for the present. The shipyards, the principal industry of the town, which a year ago employed 1,000 men, have shut down indefinitely, owing to the inability to make the plant pay. About the only work on hand for the year was the building of a new passenger steamer for the Northern Navigation Company at a cost of $500,000. To secure this contract it was necessary in the competition to make an allowance for a reduction of 15 per cent in wages. A notice to this effect was posted in the yards, the result being a refusal on the part of the mechanics to submit to the reduction of wages, and the shipyards were closed for the winter. Most of the men employed were Americans and Scotchmen, who are leaving. A furniture factory, which employed 300 men, went into a receivership some time ago and no work has been done since. The lumber mills are also shut down for the winter and the town is full of unemployed men.

SWITZERLAND.

EMPLOYMENT IN THE WATCHMAKING INDUSTRY.

Recent statistics quoted by Consul Francis B. Keene, of Geneva, show that, out of a total population of about 3,500,000 inhabitants, the total of persons employed in the watchmaking industry in Switzerland is 115,617, of which 55,988 are male and 59,629 female. The total of watchmakers is 52,752, of which 35,378 are men and 17,374 women. The distribution of the total 115,617 workers in the various cantons by percentage is as follows: Berne, 42.4; Neuchatel, 34.2; Solothurn, 7.5; Vaud, 6; Geneva, 4.2; Baselland, 1.2; Ticino, 0.7; and Schaffhausen, 0.4.

IMMIGRATION AND LABOR.

CANADA.

LAW TEMPORARILY CHANGED TO EXCLUDE CONTRACT LABOR.

The Canadian Manufacturers Association decided recently to close its labor bureau in London. A Toronto report states that few Canadian manufacturers are in need of skilled labor. The supply is generally more than equal to the demand, and since the depression set in the unemployed in all large cities in Canada have increased in numbers, and there has been a revision of the regulations governing the landing of immigrants which would itself have served to put the Canadian Manufacturers Association's London bureau temporarily out of business.

Except as regards labor recruited in the United States there are no provisions in the Canadian law forbidding employers to import contract labor, and until the recent changes made in the regulations under the Canadian immigration act of 1906, those due to the existing industrial depression, it was not necessary that immigrants, to be permitted to land, should be possessed of money sufficient to tide them over a few weeks. As a result of the change in the regulations immigrants must now possess $50 in cash or they will not be permitted to land, but this rule is limited to February 1, from which date until April 1, immigrants must bring with them at least $25. This new order has made it difficult for agents in London to send out contract laborers during the present winter months.

The campaign of the Canadian Manufacturers Association to bring in contract laborers has been vigorously assailed in the House of Commons at Ottawa and in many of the industrial centers. The Canadian Trades Union Congress sent a representative to London to persuade artisans and factory workers to pay no heed to the advertisements issued by the Canadian Manufacturers bureau in London, stating that conditions in Canada were misrepresented. There are many thousands of unemployed in Canada at this time, and as late as December 17 advertisements appeared in British newspapers in which it was stated that manufacturers in Canada in all trades were crying out for skilled labor. Mr. Oliver, the Canadian minister of the interior, submitted this advertisement to the Canadian House of Commons the third week in January, and two days later, when the executive board of the Canadian Manufacturers Association met, it decided to close its labor bureau in London.

MADAGASCAR.

REGULATIONS GOVERNING THE ADMISSION OF ASIATICS.

In reply to a communication from the editor of a New York newspaper, Consul James G. Carter, of Tamatave, furnishes the following information regarding the rules and regulations governing the immigration of orientals into Madagascar:

No distinction is made between the admission of Chinese, Japanese, and Hindoos, nor is there any distinction made in the right to enter the island between Asiatics and other immigrants. There is, however, a distinction made with regard to the right of abode, the right to transact business, and the manner of assimilation. The delivery of a permit to land for all Asiatics over 16 years of age entails a payment of $4.82, an equivalent to the various taxes imposed upon the natives. In addition, all Asiatics engaged in trade, industry, or profession pay the following taxes: Holders of first, second, and third class licenses, $193; holders of fourth and fifth class licenses, $77.20; holders of sixth-class licenses, $38.60. Reductions are made in these license taxes to certain persons engaged in small trade. Skilled laborers, exempt from license taxes, pay $4.82.

Asiatics are grouped into congregations, for the accurateness of the declarations made by members thereof, for the fixing and payment of licenses, and for any fines that may be incurred. From the day of arrival of Asiatic immigrants they are bound to ask for admittance into the congregation established in the province wherein they desire to reside; should the congregation refuse them admission, not caring to be responsible for them, they, as well as African foreigners, are placed under the superintendence of the police, who shall assign them to their places of residence. The chiefs and deputies of congregations, appointed at the request of the members, by the governor-general, must keep lists of the members, give notice of all changes in the congregations, and cooperate with the administration for their policing. A landing tax of $4.82 is imposed upon all foreigners entering Madagascar, recoverable when they leave the colony, or after five years' residence therein. This tax is levied for the protection of the government, for hospital and repatriation expenses.

AUSTRALIA.

QUEENSLAND IS NOW SEEKING ENGLISH-SPEAKING SETTLERS.

Consular Agent Asbury Caldwell, of Brisbane, reports that the government of the Australian State of Queensland is making strenuous efforts to induce settlement of English-speaking immigrants who will engage at once in the direct cultivation of the soil. He adds:

With that end in view special official agents of the state lands department are at work in the other more closely settled Australian States, in New Zealand, and in the United Kingdom. These are winning settlers and placing them on the land under very advantageous conditions.

Queensland is a vast State, containing less than one person per square mile, with varied altitudes and rainfalls, stretching from 10° to 29° south latitude. The finest of Indian corn lands are here and the most luxuriant tropical growths; also dry plains and scrub for sheep stations, and ideal conditions for horticulture in wide variety. Good rivers are more abundant than in almost any other part of the continent. A population of many millions can be supported within this State.

A press article indicating that 100,000 Americans had recently settled in Canada has suggested to one of the official land agents that the middle States of the Mississippi Valley present a fine field in which to secure a most desirable class of emigrants who are now going into Canada. This is certainly a most desirable field for the settlement of such Americans as desire a warm climate or as are suffering from phthisis or similar complaints. My experience leads me to believe that every American resident in Australia is an advance agent for the American foods and manufactures among a large group of Australians.

SCOTLAND.

EXTENT AND AMOUNT OF RELIEF EXTENDED TO UNEMPLOYED.

Vice-Consul Alfred Middleton, writing from Glasgow concerning the relief of the unemployed in Scotland, says in part:

The total number of applications received for relief in Scotland during the year ended May 15, 1907, was 8,860 or 0.48 per cent of the population. The proportion of unemployed to the population ranged from 0.08 per cent in Paisley to 1.55 per cent in Greenock, 0.3 per cent in Glasgow, 0.39 per cent in Dundee, and 0.78 per cent in Edinburgh. Of the total applicants 6,897 were rendered assistance.

The total receipts from all sources amounted to $100,920 and the total expenditures to $95,120. Of the receipts $37,760 was from the Parliamentary grant and $2,135 from the Queen's unemployed fund. The largest contributions were made to Edinburgh and Aberdeen, being $6,500 and $5,750, respectively.

BELGIUM.

SUMMARY OF STRIKE STATISTICS FOR FOUR YEARS.

Consul W. P. Atwell, of Ghent, sends a comprehensive summary of a recent quadrennial statement of the Belgian Labor Bureau on strikes in that country from 1901 to 1905. These numbered 117 in 1901, involving 43,814 workmen, and only 70 to 81 strikes per year in the three succeeding years, while in 1905 there were 133 strikes in which 75,672 took part. Strikes were most frequent in the mining and textile industries, and in the larger mills than in the smaller ones. The loss in wages in 1901 was $2,505,283; in 1902, $45,196; in 1903, $50,120; in 1904, $340,270; and in 1905, $5,553,323.

OIL AND GAS.

KOREA.

GOVERNMENT CONCESSION FOR EXPLOITATION OF OIL FIELDS.

In reference to the possible market for drilling machinery Consul-General Thomas Sammons, of Seoul, supplies the following information on the prospective oil and gas development in Korea:

Oil and natural gas concessions have recently been granted in Korea. The area selected is in the neighborhood of the former Korean capital of Pyeng Yang. An American citizen is largely interested in these concessions, of which Japanese subjects possess a controlling interest; 4,000 acres have already been selected for the purpose of making practical tests in boring for oil and another 4,000 acres have been applied for. A Government fee of approximately 12½ cents per acre is assessed for the first year regardless of the success or failure of the enterprise. This fee is increased for the second and subsequent years. The concessions are exclusively for oil-boring purposes and whatever land is required must be paid for in the usual manner prescribed by law.

GEOLOGICAL FORMATION—AMERICAN MACHINERY.

It is assumed by the interested parties that the geological formation of the district is similar to that of southern California. The appearance of an oily substance on streams and ponds in the vicinity of Pyeng Yang has, to a considerable degree, encouraged and sustained the belief entertained by a number of foreigners that oil deposits may be found in that locality. Opinions differ, however, many well-informed parties having reached the conclusion that the geological formation is such that oil and natural gas can scarcely be expected to exist in Korea.

The oil concessions, which are granted by the Korean Government to foreigners through the department of agriculture, commerce and industry and the Japanese residency general, are provided for under the Government mining laws and regulations. These laws do not provide for natural-gas concessions. Such grants will be issued, however, under special arrangements, and a number of the concessionaires are so sanguine of success that they have applied for a franchise to supply the city of Pyeng Yang with natural gas for lighting purposes.

At the outbreak of the Russo-Japanese war a company in which prominent Koreans were interested invested approximately $8,000 in oil-well boring machinery which was brought from America for use in the Pyeng Yang district. The war interfered with the carrying out of the project. The interested concessionaires now propose to utilize this machinery, and, failing in this, the concessionaires intend to purchase a new outfit in the United States.

[The names of the men exploiting the Korean oil fields are on record at the Bureau of Manufactures.]

ENGLAND.

LARGEST COMPANY REDUCES THE PRICE OF GAS IN LONDON.

Consul-General Robert J. Wynne reports that the Gas Light and Coke Company, one of the largest gas-making concerns in London, has notified its customers of a reduction in the price of gas beginning with the first quarter of this new year. The consul continues:

The reduction is from 71 cents to 69 cents a thousand feet. Profits from residuals and increase of business is the explanation given. The Gas World's Year Book just published shows that the population within the London postal district is supplied with gas by 11 companies. Among them they supply 46,403,852,000 cubic feet of gas to 1,101,896 consumers. In this area there is produced nearly 25 per cent of the output of gas of the whole kingdom, supplying 19 per cent of the gas consumers. The Gas Light and Coke Company makes 23,444,000,000 cubic feet of gas in the year, and has charged 71 cents per 1,000 cubic feet, while some of the smaller companies charge a good deal less, notably the South Metropolitan Company, which charges 55 cents, and the Wandsworth Company, whose charge is only 49 cents.

There are 1,260 gas undertakings in England, 258 in Scotland, 110 in Ireland; in addition to which there are 21 British companies owning gas works on the Continent and in other parts of the world. Municipal gas supply is on a much larger scale in Scotland than in either England or Ireland. All the large towns in Scotland own the gas works. In England this is not so, for in London, Liverpool, Bristol, Sheffield, Newcastle-on-Tyne, Plymouth, Brighton, and other large towns the gas supply is in the hands of companies. In Ireland this also is the case in Dublin and Cork. Of the gas made in Scotland, 83.3 per cent is made in municipal gas works, while in England only 31 per cent is so made, and in Ireland 46.2 per cent. The number of gas consumers in the United Kingdom has increased in the year from 5,535,799 to 5,819,941.

SPAIN.

PETROLEUM WELL RECENTLY DISCOVERED IN VILLAMARTIN.

Consul Louis J. Rosenberg, of Seville, sends the following account of the recent discovery of petroleum at the Spanish town of Villamartin:

It appears that a little over three years ago, in making improvements in the canal leading to a flour mill, the presence of petroleum was discovered and a well was opened. At a short depth a lime rock was struck, which when broken by dynamite laid bare a large mass of ozocerite, sufficient to assure the complete success of the experiment.

In March, 1907, a company possessing about 7,000 acres was formed for the purpose of exploring, exploiting, and industrially treating the petroleum. In the same month a new well was begun and petroleum was extracted at the depth of only 8 meters (meter=3.28083 feet). At 14 meters' depth the quantity of the gases of carburated hydrogen which emanated from the well was so great that the workmen were compelled to stop the drilling, and the exploration was continued by means of boring and boring machines. At 74 meters' depth a considerable quantity of gases came to the surface, which gradually increased with the depth until 79 meters were reached, when the manometer placed at the top of the "sounding" tube registered in twenty-four hours a pressure of 80 pounds. The work was discontinued until the establishment of necessary safety appliances. On December 15, 1907, a week after the required appliances had been set up, abundant petroleum of the best quality was extracted. The petroleum was found to be extraordinarily rich in benzine and in the lighter oils.

SAKHALIN.

DISCOVERY OF NEW SOURCE OF NAPHTHA SUPPLY IN OKHOTSK SEA.

Wilbur T. Gracey, consul at Tsingtau, China, transmits the following particulars regarding a new source of naphtha supply:

It has been recently reported that large naphtha fountains have been discovered on the island of Sakhalin, and that also an entire naphtha lake has opened up in the same district. The lake and fountains have been discovered by Russian engineers, and the matter has been reported to the Russian mining department. It is reported that this department will place foreigners on the same footing as Russians in the development of these. The fountains and lake are situated on the northeast coast of the island of Sakhalin, near Nabil Bay, in the Russian section of the island. The spot is said to be easily accessible to steamers, and it is reported that a line of ships will soon connect with both Vladivostok and Japan.

RETAIL STORES IN BRAZIL.

OPPORTUNITY FOR AMERICAN DEPARTMENT STORES IN RIO DE JANEIRO.

A report from Deputy Consul-General Joseph J. Slechta states that the modernization of the city of Rio de Janeiro is having a most wholesome effect upon the development of the retail establishments as well as upon other phases of commerce in the Brazilian metropolis. Mr. Slechta continues:

The magnificent new avenues offer splendid opportunities for larger and more imposing structures than were adaptable to the narrow and dark streets of the old Rio. Particularly is this true of dry goods, furnishing goods, and clothing stores. Windows dressed by professional trimmers, according to Parisian fashion, are now fairly ablaze with electric light until midnight, while formerly the windows of even the best stores were usually dark at 9 o'clock in the evening. The arrangement of goods and of displays in the more modern of these establishments does not vary greatly from that in the best stores in American cities.

Perhaps the most significant difference between American and Brazilian cities in this respect is the absence in the latter of anything like department stores. Rio de Janeiro offers splendid opportunities for investments along this line. Probably in no other large city of the world would department-store methods cut down expenses in the retail business to the extent possible in Rio de Janeiro. The reduction in municipal taxation would be considerable, since taxes are based not so much on the size of an establishment as upon the nature of the business. Circumstances which give the department stores so great an advantage over smaller establishments in the United States are greatly emphasized in Rio de Janeiro. The commercial center of the city is limited to a comparatively small area, quite out of proportion to the enormous extent of the city. This district is readily accessible by direct tramways from all parts of the metropolis.

A department store established on the right basis in Rio de Janeiro, having due regard for the customs, usages, and demands of the country, would have many advantages not peculiar to such establishments in the United States. There is, for example, no well developed system of delivering purchases at residences. Most of the better establishments make a pretense of delivering, but with the exception of one firm, which makes use of motor busses, the service is far from satisfactory. Most retailers either do not deliver at all or restrict themselves to the services of "carregadores," who carry packages in a box balanced on the head.

MECHANICAL CARRIER SYSTEMS NEEDED—ANNUAL BUSINESS.

Perhaps the modern facilities of retail establishments which are most conspicuous by their absence in even the largest and otherwise up-to-date stores are cash and bundle carriers. In some of the larger stores packages are wrapped at a bundle counter near the cashier's desk and goods are paid for at the cashier's desk only. In some others salesmen receive money at the counter and make change at the cashier's desk. Cash registers are coming more and more into use, though restricted almost entirely to the use of cashiers. There should be business for American manufacturers of carriers who will send a man to Rio prepared to put in cash and package transmission systems in this city and São Paulo.

There are no statistics which give an idea of the amount of annual business by the retail trade. Taxation is not based on the amount of business and there are no commercial rating companies, so it is difficult to arrive at any exact estimate of this business. So far as it is safe to judge from observation, it may be said that stores which compare in size with those in cities of equal population in the United States do a much smaller business in the aggregate. I have never seen any part of a Rio store crowded in the American sense of the word. Perhaps that is because the prices are not sufficiently attractive to induce shoppers to brave a crowd for the sake of investing.

HIGH RETAIL PRICES.

Certainly the per cent of profit is much larger than is customary in the United States, though it is doubtful if the actual net profits are as high. The expense of maintenance is easily three times as great as in large American cities. Except in a few cases only men are employed. Wages of clerks run from 50 to 100 per cent greater than for equal service in New York, but since cost of living here is easily twice as great as in the American metropolis, wages are comparatively lower here. Rents are enormous, and in fact every item of cost of operation is so extravagant that a much higher scale of prices rules than anywhere in the United States.

As a fair illustration, the case of linens may be cited. Prices vary from two to three times as great as in the United States. Good linen collars made in Brazil sell for about $3 per dozen, the imported article paying a duty of $1.36 per dozen. Dress stuffs, practically all of which are imported, sell for 150 to 200 per cent greater prices than in the United States. Made up stuff, mostly from France and Austria, sells at prices giving a somewhat larger margin of profit.

All of the larger and more progressive establishments are adopting the one price system, but this is a recent innovation. With the smaller dealers, the old system prevails, according to which every day is bargain day. That is, no shopper expects to make a purchase without a good deal of bickering, during which the price may be reduced frequently to a third or even a half less than the first quotation.

SPECIAL SALES NOT MUCH IN VOGUE—NO REST ROOMS.

Retailers have not yet fallen in with the "Yankee" idea of setting apart certain days as "bargain days," nor is there a great deal of newspaper advertising on a large scale. No special effort is made to attract attention to "special" or "remnant" sales, except in the ordinary course of trade. There is a good deal of sign advertising, and "liquidation" sales are apparently habitual with a large class of dealers. One of the largest furnishing goods houses makes a specialty of a well-known make of American shoes. A sign the full width of the store front announces big reductions during building sale, but even so $9 is the lowest price for a standard $4 shoe. None of the retailers have as yet adopted the attractive methods of advertising and drawing trade so frequently and generally used in the United States—that is, of providing comfortable places for the gathering of customers and shoppers.

There is nothing in the way of tea or rest rooms and few places have seats in the sales rooms. Many of the first-class stores have dining rooms for employees, serving coffee at various times during the day and lunch at noon, but these lunch rooms are never open to the public. Now that Brazilians are beginning to lead a less secluded life, spending more time in the shopping district than before, rest rooms and lunch rooms could be made most popular features in retail establishments.

A great many lines of American trade with Brazil would be given a much needed impetus by the establishment of large and up-to-date department stores here. This and other cities of Brazil are cosmopolitan enough to appreciate without prejudice the advantages of such establishments. A very large capital would be necessary to the success of such an enterprise, but under proper management the returns should be large and certainly the field is a good one for expansion.

WOMEN IN INDUSTRY.

BRITISH INDIA.

EMPLOYMENT OF WOMEN IN THE COTTON GINS—HOURS OF LABOR.

Consul-General William H. Michael, of Calcutta, makes the following report on the employment of women in cotton gins and telegraph offices in India:

A superintendent of ginning mills stated before the factory commission that the average number of hours a person was employed in a ginning mill was twelve, during which time the worker had a half hour's stoppage at midday. There are 25 per cent more women employed than are actually required to work a factory, their duty being to relieve other women as required, so that probably each woman will have intervals of rest amounting in the aggregate to at least two and one-half hours. There is, however, no stated intervals at which women are relieved. When a woman requires relief for food, rest, or other purposes, she informs the "muccadam," who provides relief. The witness approved of the proposal to bring ginning mills and pressing factories under the act, irrespective of the number of months they work in the year or the number of hands employed. He did not approve of the suggestion that the employment of women on night work should be prohibited, provided they are employed under proper supervision.

WOMEN TELEGRAPH OPERATORS RECENTLY AUTHORIZED.

The government, acting upon the recommendation of the telegraph committee, has authorized the employment of women operators. The candidates must be between 18 and 30 years of age and they must be unmarried or widows. They must undergo a training of twelve months in the telegraph training classes, during which time they will receive $6.65 a month, the same allowance that is drawn by male learners. Selected candidates, on leaving the training classes, will be on probation for one year. On appointment they will receive the following pay: At stations in India other than Rangoon and Madras, $13.35, increasing by annual increments of 80 cents, commencing with the fourth year of service, to $26.65; at Rangoon, $16.65, increasing to $30; at Madras, $10, increasing to $23.35. Service will be pensionable, and there will be no liability to transfer; but resignation will be compulsory in the event of marriage. The hours of work of women signalers will be from 8 a. m. to 9 p. m., but the whole period of duty will not exceed seven hours in the twenty-four, and there will be exemption from duty on Sundays.

PRUSSIA.

GENERAL SHORTENING OF FACTORY HOURS.

Consul Peter Lieber, of Düsseldorf, quotes an official report of the "Board of the Prussian Inspectors of Industry," which shows that 583,310 adult women were employed during the year 1906 in the industries of Prussia, details following:

This means an increase over the preceding year of 5.6 per cent, while the year 1905 showed only an increase of 4.6 per cent over the year 1904. The total number of women laborers would have reached still higher in 1906 if this had not been counteracted by the scarcity of laborers. Among the various industries employing women workers the textile branch comes first, with 120,353 adult female workers. Linen and underclothing comes next, with 77,413 women. In other lines 54,800 women were employed in chemical cleaning, 35,698 in cigar manufacturing, 26,448 in metal working, and 24,418 in factories making instruments, apparatus, and machine tools. After the industries mentioned, the greatest increase in the employment of female labor is found in mining and the polygraphic industry.

In regard to the coming law respecting the ten-hour working day for female labor, it will be interesting to consider what the present condition of labor is. In Prussia among trades in which most women were employed who worked more than ten hours a day, in most cases eleven hours being the rule, brickmaking occupies the first place, with 19,553 women workers. The sugar and jam factories also worked more than ten hours. It was the same to some extent in the textile industry, but on the whole this branch showed an inclination to shorten the hours of work. In all other industries it was an exception to work more than ten hours. In 1902 there were only 69 factories which had adopted the English factory work period, while in the succeeding three years 471 more factories put it in force, and in 1906 267 additional factories adopted the system.

The condition of female labor in Prussia has become much better, in spite of the exceedingly high industrial activity, in that overtime has greatly diminished as compared to 1905. In 1906 there were 572 factories licensed to employ women beyond the legally prescribed hours, the number of the women affected being 36,854, whereas in 1905 there were 589 such factories, with 55,951 women employees.

ENGLAND.

WOMEN AS RAILWAY TICKET SELLERS.

Consul-General Robert J. Wynne reports that, following a French example, the main line underground electric railways in London are to try the experiment of employing women ticket sellers, or "booking clerks." He adds:

In many quarters the experiment will be watched with interest. The principal difficulty in the way of employing women in this capacity rests in the hours of duty, inasmuch as the booking offices are open from 5 a. m. until half an hour after midnight.

The employment of young women at railway stations in Glasgow is a practice of a good many years. The Caledonian Railway has about eighteen female booking clerks, who began at $2.50 and rose to $4.50 per week. So far as their work is concerned, the girls in Scotland are stated to be a success, because it is the kind of employment that suits them exactly. It can not be said that the experiment had been an overwhelming success. Practically the same number of women clerks are now on the staff as thirteen or fourteen years ago. One drawback to the employment of girls is that it restricts the area for training youths who pass into other branches of the service.

In addition to women ticket sellers the underground electric companies are about to enlarge on an experiment, which already promises success, in the use at station entrances of automatic ticket machines with slots for half pennies and multiples thereof.

GERMAN PRINTING OFFICES.

POSSIBILITY OF INTRODUCING AMERICAN APPLIANCES AND MACHINERY.

A recent inquiry received by Consul W. L. Lowrie, of Weimar, from one of the large American manufacturers of printing presses, type, and printers' material in general in regard to the possibility of introducing these products into the German market, brings to notice the comparatively primitive condition in that country of this art, and leads the consul to write:

As a matter of comparison, it is safe to say that German printing offices are about ten years behind America in labor-saving devices, such as are employed in our composing rooms equipped with the latest appliances. The apparent lack of interest here may be due to the low cost of labor. For instance, a job compositor who would demand $30 a week in an American printing concern in a large city is glad to earn 40 to 45 marks ($9.52 to $10.71) here, and so on in proportion along the entire wage schedule.

Presses are built much heavier here than in America, the machines being constructed to last a long period, even at the sacrifice of speed and efficiency. Few cylinder presses run more than 900 impressions an hour, and they require two or three operatives each. Feeders are in almost all cases girls or women, earning about 20 marks ($4.76) a week. A two-revolution press is practically unknown in this country.

The web press, printing direct from the type form, without the expensive operation of stereotyping, is also absent from this market.

MARKET REQUIREMENTS TO BE STUDIED.

The one great objection the German printers and publishers have against the American built machines is the difficulty of obtaining parts in the event of a breakdown. They freely admit that the American product is more efficient, faster, and constructed on more graceful lines—in short, that it is a better all round "money maker" than the German press. But they contend that the increased profit which would accrue while the press is running would soon be offset by a wait of six or eight weeks for parts to make necessary repairs after a breakdown. This objection could easily be overcome by the establishment of a centrally located warehouse, stocked with the various parts.

It would be necessary for type makers who wish to enter this market to consider carefully the German type faces. New molds would be necessary to meet requirements. The majority of the large daily newspapers on the European continent are still being set by hand, although there is a linotype factory in Berlin. There are four or five different type heights in use. The many disadvantages will be obvious to every American printer and manufacturer of printers' materials. However, it seems probable that the market for standard height and standard line body type would be considerable. In fact, the field for this entire industry, as well as for any article of merit produced in America, is practically unlimited, provided competitive figures are quoted and the manufacturers advertise their goods and push their sale with energy. The German is conservative in all his business dealings. Once shown, however, where he can save time and labor, he is not afraid to invest his money.

CEYLON PEARL SHELLS.

DISPOSITION OF FISHERIES PRODUCT—FACTORY OPPORTUNITY.

Replying to an American inquiry as to the opportunities for purchasing the shells of pearl oysters in Ceylon, Consul E. A. Creevey writes as follows from Colombo:

The price of pearl shells in recent years has varied from $26 to $35 per ton c. i. f. at Continental ports. While supply and demand have been the chief factors in determining the price, the quality of the shell and the mode of packing employed have also had their influence. It is expected that the price in 1908 will be higher, as it is stated that there will not be a pearl fishery season, owing to unfavorable conditions on the oyster banks. Even when a large fishery is made it is sometimes impossible to secure large quantities of shells because of irregularities of shape and the prevalence of worms which eat the shells; also at times there are excessive excrescences.

The fisheries were conducted by the Ceylon government up to two years ago, when they were leased to a company organized for the purpose. The company has sold the shells in "kottus," the buyer undertaking to remove all, without regard to quality, from the shore. I am informed that the purchaser of the shells has not rendered satisfactory service, having left the worthless shells on the shore after sorting, and that the company contemplates canceling his lease. The banks lie about three days' sail from Colombo, and the buyer of the shells effects their removal between November and March, when the winds permit. Between April and October the banks are not approachable by sailing craft, owing to the monsoon. This season's shells are now being brought to Colombo, and it is expected that the kottus will yield between 500 and 700 tons of sound shells.

WINDOW-PANE SHELLS—EXPORT STATISTICS.

Samples of shells are forwarded [and may be seen at the Bureau of Manufactures]. With the pearl shell samples is a sample of shell known as "window pane." This is the product of a government fishery, and the annual yield ranges below 300 tons. The sizes are between 5 and 7 inches, and the price varies between $70 and $90 per ton, c. i. f. at Continental ports.

The freight rate on shells packed in wooden cases is 15 shillings ($3.65) per ton higher than the rate on shells in bags and 5 shillings ($1.22) per ton higher than on shells in barrels. Shippers favor the use of wooden cases, even though the rate be higher, as there is practically no breakage in the cases, while breakage is great in bagged shells.

The exports of pearl shells from Ceylon in the calendar year 1906 aggregated 13,809 hundredweights, consigned as follows: United Kingdom, 922; Spain, 40; Japan, 1,158; Italy, 1,000; Germany, 7,689; shells effects their removal between November and March, when the France, 2,971; and Austria, 29. The exports for the first ten months of 1907 amounted to 10,575 hundredweights, of which Germany took 7,002.

It would appear that there is a good opportunity for the establishment in Ceylon of a factory for the manufacture of pearl-shell goods, and that American capital might well be invested in such an enterprise. As none but perfect shells are exported, millions of other shells and fragments fit for manufacture are wasted each year, and these could be utilized by a manufacturing concern located here. A factory located in Ceylon could draw its supply of raw material from the neighboring shell fisheries as well as those of Ceylon, and the failure of a Ceylon fishery need not materially affect the supply.

MADAGASCAR PEARL FISHERIES.

TWO CONCESSIONS RECENTLY MADE ON THE WEST COAST.

Consul Joseph G. Carter, of Tamatave, writes that the government of Madagascar has recently granted two concessions for pearl fisheries, of which the following is a brief summary:

The grants cover the entire west coast, a distance of 1,000 miles, with the exception of 200 miles for which two concessions were made in the year 1906. The earlier grants attracted little interest, and apparently no efforts have been made to develop them. There are some indications that the two more recent concessions will be operated, perhaps jointly.

According to the text of the decrees, which have not been definitely approved, the authorization is personal and can not be sold or transferred without the approval of the governor-general. The use of divers, machinery, dredges, and other apparatus and the establishment on certain points of the coast in the zone specified of installations necessary for the industry are permitted on the condition that such installation will not interfere with navigation, fishing, or coast travel. The terms provide for the payment of a tax during the first year, with a stated increase per year. At the expiration of a specified period the tax is to be revised according to the prosperity of the undertaking. Every year a report of the installations made and the results obtained must be forwarded to the governor-general. The concession may be canceled for failure to begin operations within a stated number of months; for abandonment of the work throughout any one year of the period of concession, except in the case of unforeseen circumstances; for nonpayment of the tax; or for renting or transferring without authorization. At any time when the interests of the colony or public services may require the privilege may be withdrawn without indemnity.

GERMAN WOOD ALCOHOL.

EXTENT OF ITS MANUFACTURE—IMPORTS AND EXPORTS.

Consul-General A. M. Thackara, of Berlin, in response to a New York inquiry, writes as follows in regard to the production of wood alcohol and its by-products in Germany:

There are no statistics available which would indicate the exact production either of wood alcohol or its by-products, but a resident of Berlin, one of the largest refiners of wood alcohol in Germany, states that the production of wood alcohol (100°) in Austria-Hungary and Germany may be estimated at about 6,500,000 kilos (14,330,050 pounds), but he can not give the figures for each country separately. The estimated production of acetate of lime is from 27,000 to 28,000 metric tons (metric ton=2,204.6 pounds), and about 110,000 tons of charcoal are produced.

The importation of crude wood spirits into Germany for the first ten months of 1907 were 5,543.3 metric tons, of which 1,405.6 tons came from Austria-Hungary and 4,018.2 tons from the United States. The imports of crude acetone during the same period were 55.9 tons, most of which came from Austria-Hungary. The exports of crude wood spirits and acetone were 1,013.6 tons, of which 499 tons went to France, 152.3 tons to Great Britain, and 175.4 tons to Switzerland.

The imports of refined wood alcohol were 97.4 tons, of which 95.3 tons came from Austria-Hungary. The exports of the refined product were 893.7 tons, of which France received 511.4 tons, Great Britain 110.6 tons, and Switzerland 94 tons. The exports of refined acetone were 685.5 tons, of which 510 tons went to Great Britain and 52.3 tons to British India. The figures for the imports and exports of the by-products of the distillation of wood alcohol can not be given, as in the official customs statistics these products are grouped with a number of other articles.

FOODS AND DRINKS.

PROVISIONS.

MEXICO.

MEATS HIGHER THAN IN THE UNITED STATES—PEONS LIVE CHEAPLY.

Special Agent Arthur B. Butman, writing from Mexico City on the cost of living in Mexico, gives the following information on the subject:

While the prices of food products vary somewhat in the different cities of Mexico, those prevailing at this time (January 14) in Mexico City give a fair idea of the average cost. It should be stated that the imported fancy foodstuffs are not purchased by the large masses of Mexicans—the peons—who form probably 75 per cent of the total population, and whose working wage, either as common laborers or as mechanics, is, from the American point of view, very low. The food of these people consists largely of rice, "tortillas," or pancakes, "frijoles," or black beans, and chiles. The estimated cost of living as furnished in this article applies particularly to American or English subjects residing in Mexico, and to supply the special needs of which depots have been established, where a great many of the food products to which they have been accustomed at home may be secured. Prices are quoted in Mexican values; that is, a peso or dollar equals 49.8 cents in United States money, and a kilo equals 2¼ pounds.

Hams and bacon, imported from the United States, are sold at $1.15 the kilo. There is practically no local trade in American canned meats in Mexico City, this line being most largely confined to the mining regions of the Republic. Canned fish sells at 40 cents the pound can, and Nova Scotia salted cod at 30 cents the pound. One wholesale dealer was of the opinion that American canned oysters and canned shrimps might successfully be placed on the market here.

GOOD PRICES FOR NATIVE MEAT.

Native beef sells per kilo as follows: Rib roast, 90 cents; porterhouse steak, 90 cents; tenderloin, $1. For the best cuts of native pork and sausages, 90 cents. The same price obtains for the best cuts of lamb and mutton, while veal, best cuts, sell at $1. I am told that the number of animals slaughtered to supply meat for the City of Mexico and her 7 suburbs from January 1 to December 1, 1907, was 408,619, of which 139,355 were beeves, 188,451 sheep, and 80,813 hogs. Twelve to 14 pound turkeys may be bought for from $4 to $5 each; spring chickens from 90 cents each upward, and wild duck from 40 to 50 cents each.

American made butter is largely imported packed in cans, and sells from $1 to $1.25 per pound. Oleomargarine can be bought for

60 cents, and lard, also of American manufacture, for 35 cents per pound. Domestic lard sells for a few centavos more the pound, and is of excellent flavor, but the demand far exceeds the present supply. Native eggs are 75 cents a dozen. Cheese retails per kilo as follows: American, $1.32; Canadian, $1.32; European, $1.50: American wheat flour may be had at 18 cents the pound, and the native product at 10 cents for a like quantity. Rice of best grade is 35 cents the kilo. Teas range from $1.25 to $3, and the best grade of coffee is 40 cents the pound. Cocoa of American manufacture sells at 90 cents for a half pound can; Dutch cocoa at $1.25 for a can of the same weight.

American breakfast-food preparations of various well-known sorts retail at 45 cents per package. In the fancy-biscuit trade, English products have perhaps a larger sale than the American; these goods from both countries being usually priced at the same figure, 85 cents a pound. American-made biscuits or crackers, such as sell for 5 cents in the United States, bring 30 cents a package here. Cane sugar, native grown and refined, both loaf and granulated, is 20 cents the kilo.

MILK, BREAD, FRUIT, AND LIQUORS.

I am informed that an average of 65,000 liters of milk (liter= 1.0567 quarts) are consumed daily in the City of Mexico, and that the number of dairies within the Federal district is 126, stocked with 7,000 cows. Milk sells at present for from 16 cents to 18 cents, cream from 80 cents to $1 per liter. Condensed milk of both American and European manufacture is on sale at 40 cents a can. The principal trade in this article is done with the coast cities of "the hot lands," and with those cities near the mining camp regions.

The bread industry is an important one in Mexico City. There are some 30 bakeries, with an estimated daily output of 1,800,000 pieces of bread. A good amount of this production is for the outside trade, largely for southern cities and markets. American, German, French, and Mexican bakers are represented in the industry and excellent bread is made, which sells at 12 cents per loaf of 200 grams (gram= 15.432 grains).

Apples grown in the United States may be had for 75 cents per kilo (2.2 pounds); canned in 3-pound cans for $1.25. American potatoes sell for 16 cents a kilo. Fruits and vegetables, native grown, which include practically all those green vegetables to which we are accustomed in the United States, are as a rule less expensive than with us. Strawberries may be secured at a nominal price the year round. Oranges of large size and of fine quality may be purchased at this season for 2 centavos each.

The sale of American wines and liquors is not large at present. The market for American whiskies has increased during the past few years and bids fair to continue to do so. The trade in California wines is somewhat slow, the great bulk of like brands being of European vintage. It is claimed that the consumption of "pulque," the native Mexican poor man's drink, is decreasing; while the manufacture of native beer is constantly increasing with the establishment of new breweries. One enterprising concern advertises its product as "The beer that made Milwaukee jealous." The customs duty and freight charges on American beer render any considerable sale of the same almost out of the question here; these being virtually more than the original cost of the goods.

The importation of the following articles from the United States for the fiscal years ending June 30, 1905–6–7, will give an idea of the trade in this line with Mexico:

Articles.	1905.	1906.	1907.
Butter ... pounds	528,785	563,086	627,657
Cheese ... do	328,594	303,649	290,518
Corn ... bushels	502,710	1,647,216	1,986,103
Wheat ... do	24,906	2,203,065	2,021,592
Flour, wheat ... barrels	58,035	39,888	32,238
Lard ... pounds	4,284,864	6,290,309	6,998,086
Tallow ... do	683,788	1,820,155	448,537

CHINA.

TRADE IN BUTTER AND CHEESE—UNITED STATES LOSING GROUND.

Consul Wilbur T. Gracey, at Tsingtau, reports as follows regarding the opportunity for the sale of butter and cheese in China:

During the past year butter and cheese to the value of 360,000 haikwan taels (1 haikwan tael=83 cents gold) was imported into China, France having exported to the value of 73,116 taels; Germany, 41,993 taels; Great Britain, including Hongkong, 144,004 taels; Australia, 31,480, and the United States, 25,901, the latter amount being a drop from 44,040 in 1903.

Of the total importation 196,527 taels' worth was sold on the Shanghai markets, Tientsin supplying North China with 61,793 taels, and Kiaochow (Tsingtau) coming next with 29,720 taels.

The past three years have shown a gradual falling off in the importation of American butter in China, which is being replaced by Australian products. Arrangements have been made with the shipping lines running to Australia by which they bring butter and cheese to China in cold storage, and good fresh Australian butter (sold in cakes weighing 1 and 2 pounds, wrapped in butter paper, and packed in buckets), can be purchased on the local Tsingtau market at $1 Mexican (about 50 cents gold) per pound, and at 90 cents Mexican per pound in Shanghai and Hongkong. The British firms who are responsible for the importation of Australian goods have arranged with the Hamburg-American line and other shipping companies by which these fresh products are carried in cold storage to the various Yangtze cities and outports of China, and large quantities of butter are now being used by the Chinese as well as the foreign population.

EXTENDING USE OF BUTTER.

It is only a few years since butter was unknown to the Chinese, when it was never used, and when even the milk from the cows could not be purchased, but recently Chinese restaurants have taken to the serving of "European-style dinners," and the better class of Chinese are becoming large consumers of butter and other European luxuries. In the ports where fresh butter is obtainable this is given the preference, but in the interior Chinese cities tinned goods are being largely used. The French butters command much the largest sale in the interior, the brands are well known and it is difficult in China to replace brands which have been long used. The only possible way of displacing known goods is by a thoroughly conscientious and complete campaign of personal representation.

Cheese is only imported in China for the use of the European residents. It does not as yet appeal to the peculiar palate of the Chinese race, but during the past four years the value of the butter importation has increased over 50 per cent.

Undoubtedly much of the butter trade could be again secured by exporters in the United States, especially on the Pacific coast, making arrangements with the shipping companies to bring out their goods in cold storage, and have their agents in Shanghai or Hongkong make similar arrangements with the local shipping companies. The Australian, French, and Danish butters now obtainable on this market are certainly superior to any American product that can be purchased.

The following prices are given by a local merchant: First quality table butter, 1 pound tin, $1; 2 pound tin, $1.90. First quality cooking butter, 70 cents per pound; second quality, at 50 cents, or 4 pound tin, $1.85, all quotations being in Mexican currency.

NORWAY.

DIRECT SHIPMENTS OF AMERICAN SIRUPS TO BERGEN SUGGESTED.

The attention of Consul Felix S. S. Johnson has often been called to the market for sirups at Bergen, which leads him to write:

Large importations are at present being made into Norway; the customs statistics credit these goods to other countries, as the merchandise is shipped via a European port before reaching Bergen, and the transshipment port is credited by the Norwegian customs officials with the goods. I was informed by a member of the chamber of commerce at Bergen that after January 1 the customs statistics would be changed and due credit given to goods coming from the country of origin.

American sirups are in great favor and demand and more attention should be given to the development of the Norwegian trade by manufacturers, which in the course of a few years could be doubled. There is no customs duty on ordinary sirup and molasses. The routes employed in transportation are Rotterdam, Hamburg, Newcastle, and Hull.

A severe drawback to the extension of American trade abroad is the requirement of payment for goods before shipment; this method of doing business ought to be changed, for it obliges the importer to receive goods if they arrive in damaged condition. An importer at Bergen suggests that it would be a much wiser plan to have part payment made when the order is sent in, and the balance on receipt of goods. No European exporter demands cash payment; as a rule a credit of from three to six months is given and frequently the time is extended with a fixed rate of interest.

American manufacturers and exporters should take into consideration that Bergen is rapidly increasing in population, numbering to-day over 87,000; it is the chief seaport on the western coast of Norway and will be, in the course of a short time, the terminus of the railroad from Christiania; to-day it has steamer communication with almost every small village on the western coast, supplying them with the necessaries of life. Steam communication is had with all of the principal European ports, and it will only be a matter of a few years until a line will be established to the United States, the exports to and the imports from which country would warrant such a step.

[A list of Bergen sirup importers is forwarded by the consul, to which he suggests the sending of samples and price lists.]

ENGLAND.

AMERICAN EGG SHIPMENTS SHOW GREAT DECLINE—REASON THEREFOR.

Consul-General Robert J. Wynne, of London, reports that suggestive figures in reference to England's egg supply are furnished by a member of the National Poultry Organization Society, from which he compiles the following:

The total import of eggs in 1906 in great hundreds (120) was: Russia, 7,132,928; Denmark, 3,823,942; Germany, 2,644,242; Belgium, 2,444,746; France, 1,491,269; Canada, 231,719; and other countries, 1,105,263. Altogether these figures represent an import of nearly 2,255 millions of eggs, of the total value of $39,900,685.

Although the number of eggs imported from Denmark fell off in 1906 by 34,193 great hundreds, as compared with 1905, the value of the total import increased by $813,000. In England the production of eggs has in the last few years increased enormously. The value of last year's home product was $12,500,000 greater than was the case twelve years ago, while the $7,500,000 paid to France for eggs a few years since has now dropped to $3,000,000. Yet experts are of opinion that it will be many years before home producers have caught up with the demand for eggs of high grade.

In 1906 the import of eggs from the United States was but 41,000 great hundreds, valued at $86,000. In 1901 the number imported was valued at over $6,000,000, in 1902 at $320,000, in 1903 at $300,000, in 1904 at $50,000, and in 1905 at $24,016, in great hundred lots.

The decline in imports from the United States was, as stated in an annual report from this consulate-general, "undoubtedly due to the vastly increased supplies received from European countries, where exporters dated the eggs with the date of laying, and impressed (by rubber stamps) certain marks and initials as a key to the farm from whence the eggs were collected, so that in the event of complaints being received as to unsatisfactory condition, inquiries can be easily instituted at the original source, and, if necessary, compensation be recovered. That this system has appealed to the retailer in Great Britain is unquestionable, while the proximity of Denmark and Russia is a powerful factor." London's egg consumption is estimated to be as follows: Number of eggs consumed, 800,000,000; weight, 60,000 tons, cost to consumers, $20,000,000. London draws half of her yearly supply from England and 15 per cent from France.

MEAT TRADE.

ITALY.

A CARGO OF ARGENTINA ANIMALS BROUGHT IN AS A TEST.

Consul James E. Dunning, of Milan, sends a supplementary report on the importation of Argentine cattle into Italy, following his earlier report on the same subject. Both were prepared by Vice-Consul Santi, who says:

As mentioned in the first report, the Milan Meat-Cooperative Association decided to import a shipment of South American cattle to see if such stock could be brought regularly from Argentina at a profit and thereby cut down the present market prices here. The result is not conclusive by any means. The association brought over 568 head on a specially chartered steamer which arrived in Genoa on July 23, twenty-nine days out. The Italian Government, in order to help the trial, gave special permission that such shipments be entered free of duty for a period of thirty months. It then put an expert on the subject, Prof. Antonio Pirocchi, who found that out of the 568 head 89 died during the voyage, or 15.66 per cent of the total. Mr. Pirocchi attributes this to sea-sickness, accompanied by the confined atmosphere, and to the gases emitted by the manure, and which, through inefficient ventilation, could not be got rid of.

Another important cause was a high temperature to which the animals were not accustomed, and into which they were brought immediately from their native atmosphere, without any preparation. He found that on the steamer, and as an average, each animal lost 150 pounds from the average total individual weight of from 1,480 to 1,330 pounds. From Genoa to Milan the animals also lost weight. The meat of some animals was a very dark red upon arrival at Milan, and in only a few cases the meat was found to be the natural color. The meat had also grown coarser.

COOKING TESTS—IMPORT DIFFICULTIES.

After killing, a part of the meat was cooked experimentally in various ways. The result was hard, with little flavor, while in only a few cases it resembled the good flavor of the native stock. Boiled beef was found hard, but had a better flavor than the roasts. The expert justified this by saying that the animals, after a sea trip lasting twenty-nine days, were brought immediately to Milan and slaughtered, without giving them time to rest and fatten. He thinks that if the same animals were kept on the hoof longer in Milan, with plenty of food and fresh air, the meat would have improved greatly.

The most interesting part of the expert's report is that in which he gives his opinion as to whether Argentina cattle could be imported into Italy in such a way as to compete successfully with Italian cattle. He calculates that a 3 to 5 year old beef weighing on the hoof 6 to 7 quintals (quintal=220 pounds), ought to be worth $91 at Genoa, the natural port for Lombardy.

In this way a live beef ought to cost at Genoa $15 per quintal of 220 pounds, without calculating profit. Under the following conditions, he thinks Argentina ought to make a success of the trade: First, if the price as established at 7 cents per pound be reduced; second, if the ship and railway expenses, together with the import duty, be cut down; third, if the present existing price for Italian cattle remain as high as at present.

CONDITIONS REVIEWED.

It is remarked in reference to the first condition that present prices in Argentina tend to increase. For instance, in January, 1905, one could buy a beef of the so-called "special quality" for $61 to $67, while in January, June, and December of 1906 respective prices of $67 to $72, $77 to $86, and $86 to $96 were charged, and in April, 1907, the same animal would cost $101 to $115.

Referring to the second condition, the expert finds it may be possible to reduce freight and food charges, but even with such reductions no animal could be bought under 6 cents per pound. When one remembers that to this price must be added the profit of the importer and the unloading expenses, plus transportation from Genoa to Milan, which alone costs 38 cents per quintal of 220 pounds, it would always reach at least $14.08 per quintal of 220 pounds. If conditions were as described, then competition with Italian cattle would be possible, but when one remembers that prices are not diminishing in Argentina and that it would be very difficult to cut down costs for some time to come it seems evident that Italian cattle will easily hold the market without fear of competition from South America.

Referring to the third condition, the expert's report says "that with the very bad condition of Italy so far as cattle is concerned," the unhealthy conditions under which they are at present living and the old-fashioned methods employed, it is clear that there is no possibility of much reduction in the prices of Italian live stock.

IMPORT STATISTICS.

The following are the statistics regarding the importation of cattle on the hoof, showing the quantities and values for the years 1905 and 1906:

Animals.	1905.		1906.	
	Number.	Value.	Number.	Value.
Oxen	853	$72,465	1,015	$83,255
Bulls	66	7,524	128	14,080
Cows	4,450	392,392	4,555	400,840
Bullocks and young bulls	2,765	177,960	3,689	236,080
Calves	9,623	356,040	15,520	574,240

From 190,000 to 200,000 head of cattle are killed annually in Milan alone. The Italian import duty per head on the hoof is as follows: Oxen $7.33, bulls $3.47, cows $2.31, bullocks and calves $1.54. The rate on fresh and dressed meat is $2.31 and on dried meat $4.82 per quintal of 220 pounds.

UNITED KINGDOM.

CONSUMPTION OF HOME AND FOREIGN BEEF IN GREAT BRITAIN.

Consul-General Robert J. Wynne, of London, reports that the growing control of the British meat market by foreign firms has been causing much recent discussion. He writes:

Interest in the subject is stimulated by the report of additional arrangements being made to bring a more continuous meat supply to various corporation lairages. In London a policy of decentralization has been inaugurated by which the combination dealers go to supply the customers in the suburbs, leaving the old city market centers to a shrinking trade, and the British dealers admit that they are powerless to meet that kind of competition.

The foreign organization is said to be so powerful that it can fix the price of beef at will in any part of Great Britain. The latest figures show that the English people are eating relatively less home-raised beef and that more is being imported. The imports of fresh beef during the years 1902–1906 were as follows, in tons of 2,240 pounds:

Year.	Imported from—				
	United States.	Argentina.	British possessions.	All other countries.	Total.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*
1902	114,523	46,287	16,200	8,359	185,369
1903	132,781	57,610	12,141	3,583	207,960
1904	119,791	83,763	13,020	928	217,502
1905	111,610	129,007	8,475	2,784	251,876
1906	121,334	139,795	14,087	975	276,191

LIVE CATTLE IMPORTS—HOME AND FOREIGN BEEF SUPPLY.

The imports of live cattle during the years 1902–1906 were as follows:

Year.	From the United States.	From Canada.	From all other countries.	Total.
	Number.	*Number.*	*Number.*	*Number.*
1902	323,568	91,648	143	415,359
1903	301,645	189,721	27,807	519,794
1904	401,050	145,166	....	543,351
1905	413,591	148,346	....	561,937
1906	398,338	160,223	....	558,561

According to an estimate the total consumption of beef in the United Kingdom, and the estimated imports of foreign beef (live and dead), in comparison with the home production, were as follows during the five years under review:

Year.	British beef.	Foreign beef.	Total consumption.
	Tons.	*Tons.*	*Tons.*
1902	714,760	367,294	1,082,054
1903	717,760	422,006	1,139,941
1904	725,548	443,738	1,169,286
1905	728,737	486,540	1,215,277
1906	744,605	495,191	1,239,796

The proportional per cent of the beef imports to consumption was as follows:

Year.	United States.	Argentina.	British possessions.	All other countries.	Total.
1902	23.5	4.5	4.6	1.1	33.7
1903	22.9	6.2	7.1	.6	36.8
1904	24.5	7.5	5.6	.4	38.0
1905	22.7	11.1	5.8	.5	40.1
1906	22.3	11.6	5.8	.2	39.9

COLOMBIA.

OPENING FOR AMERICAN CANNED GOODS IN THE MINING DISTRICTS.

In reply to a communication from a western packer, concerning the trade in meat and meat products in Colombia, Consul Isaac A. Manning, of Cartagena, furnishes the following information:

The following statement shows the imports of meat and meat products for the year ended June 30, 1906, and the ten months ended April 30, 1907, together with the imports from the United States:

Articles.	1906.	Ten months 1907.	Articles.	1906.	Ten months 1907.
	Pounds.	*Pounds.*		*Pounds.*	*Pounds.*
Lard and products sold as lard, including refined beef tallow and cotton-seed oil	1,082,585	45,128	Hams from the United States	8,187	3,986
Imported from the United States	1,058,088	45,128	Salted beef, from the United States	....	6,100
Hams	11,063	7,871	Crude tallow	179,390	168,821
			From the United States	176,588	[a]137,231

[a] Crude tallow was imported from Panama to the amount of 27,405 pounds, which was, presumably, American tallow.

One of the reasons for the small importation of lard and lard products during the ten months of 1907 was that importers had loaded up heavily in 1906, and, again, the cheapness of the local product, which has been rather abundant. Of course economic conditions have something to do with it, causing reduction of buying power on the part of the people. This condition will no doubt pass away soon, as there is hope of improvement with the next year's crops.

LARD—CANNED MEATS—CUSTOMS DUTIES.

Just what proportion of the lard imports was pure lard and what beef fat and cotton-seed oil it is impossible to say, as no careful segragation of these importations is made on the manifests on file in the custom-house here.

One of the largest importers of provisions here stated to me that in Cartagena the sale of the prepared product (refined beef fat and cotton-seed oil) exceeded that of pure pork lard, chiefly because of the difference in price, and that very few people seem to recognize the difference in material. For the interior of the country pure lard is preferred to the imitation. The crude tallow is used for the manufacture of fine soaps and candles.

There is little sale locally for canned meats, but there should be a good demand for this class of goods for consumption in the interior, especially in the mining region, where food products are scarce. The imports of such articles are classed with "all other canned goods."

Customs duties are high on all these products, which tends to make the prices in a measure prohibitive for people of moderate means. Salt beef and pork pay 5.1 cents per kilo (2.2 pounds); canned and smoked hams and canned meats, 17 cents; lard, etc., 8½ cents; and crude tallow 1.7 cents, all per kilo.

A list of the principal importers in Cartagena accompanied Consul Manning's report, and is on file in the Bureau of Manufactures.

AUSTRIA.

POSSIBLE OPENING FOR AMERICAN MEATS IN NORTH BOHEMIA.

Consul John S. Twells, of Carlsbad, furnishes the following information concerning the increased cost of living in his consular district, and the possible opening therein for an American meat trade:

During the last five years there have been strikes in Austria among many classes of laborers and workmen, which must be chiefly attributed to the constantly advancing prices of food, clothing, and rent. At Carlsbad these have advanced from 10 to 50 per cent during that time.

Not only the working classes but the shopkeepers, school officials, post and municipal authorities, the various law officers, and all grades of officials whose incomes do not exceed $1,600 a year, complain that the present prices of food and clothing are exorbitant. Owing to the high price of meat, efforts have been made to introduce into this market fish from the German and Baltic seas, and as the ports from which they were shipped are only sixteen to twenty hours' distant, they arrived here in good condition, but the attempt seems to have failed. The people are accustomed to animal and farinaceous foods, and, with the exception of fresh-water fish, taken from the rivers and lakes of Austria-Hungary, principally zander, carp, schill, trout, and a few salmon, no fish has a permanent sale in this country.

It seems possible that American salted or pickled pork and corned beef, if cheap enough and well prepared, might find a ready and profitable sale here, but it will be necessary to establish wholesale warehouses to supply the trade, and even private customers, direct. The price of meats in the Carlsbad market is as follows, per pound: Beef, veal, and mutton, 20 cents; pork, 25 cents.

That portion of North Bohemia embraced by the Carlsbad consular district contains a population of 1,167,413, employed chiefly in manufacturing, mining, agriculture, etc., besides the annual influx of visitors to the springs, viz, Carlsbad 160,000, Marienbad 100,000, and Franzenbad 60,000. More than one-half the population belongs to the laboring classes, and it would be worth while for American packers to attempt to supply them with barreled and canned meats.

CHILE.

OPPORTUNITY FOR INCREASING THE SMALL TRADE IN AMERICAN MEATS.

In reply to several inquiries relative to food products in Chile, Consul Alfred A. Winslow, of Valparaiso, reports that there is quite a market for cereals, prepared foods, canned and prepared meats and fish, market conditions being as follows:

Most of the prepared foods and cereals are of American production and brought into the country from England. Their use is on the increase and they should be imported direct and at a figure so they could be sold at a reasonable price. They are now sold here at about three times the prices at which they are retailed in the United States. None of the articles in question are manufactured in this country.

Most of the canned and preserved meats now sold in Chile are of European production, about 45 per cent being from England, aside from that prepared in Chile, which really does not amount to much. Formerly American meat products had a good standing in the markets of Chile, but the distorted reports published in this part of the world have so prejudiced the public against the American meat products that but little is now sold outside the mining districts. In order to get the portion of this trade we should have, the people must be convinced that the stories published were not true, and that now all meats are rigidly inspected by the United States Government. It seems this might pay, for the price of meat in Valparaiso is generally very high. A series of instructive articles published in the leading papers of Chile covering the preparation of meat products, together with a full explanation of the Government inspection methods would do much to right matters and satisfy the people of Chile as to the wholesomeness of these products.

In 1904 the imported meat products amounted to $30,631 United States currency, of which the United States furnished about 15 per cent, while for 1906 the importations amounted to $53,168, of which the United States furnished about 14 per cent, when it should have been fully 30 per cent. [A list of Valparaiso dealers in food products is on file in the Bureau of Manufactures.]

ALCOHOLIC BEVERAGES.

BRITISH INDIA.

NATIVES NOT MUCH ADDICTED TO LIQUORS—TRADE STATISTICS.

Consul-General William H. Michael writes as follows from Calcutta in regard to the sale of spirituous drinks in India, with special reference to the importation of beer:

The importation of American beers into India in 1906 amounted to practically nothing at all. The importations under the head of ale, beer, and porter in gallons for three years up to December 31 were as follows:

	1904.	1905.	1906.
From the United Kingdom	4,156,060	4,217,658	4,730,118
From Germany	253,562	302,590	329,971
From other countries	43,278	106,351	93,662
Total	4,452,900	4,626,608	5,153,751

It will be perceived that the United States is included under the head of "other countries," and that the total supplied by other countries in 1906 amounted to the insignificant quantity of 93,662 gallons, the total value of which amounted to $58,315.

The United Kingdom, which means, in this case, England, in the fiscal year 1906–7 supplied India with 4,926,513 gallons of malt liquors, valued at $2,019,445. Most of these liquors came in hogsheads and bottles, and were consumed in the main by the European army, Europeans, Eurasians, and tourists. The natives do not take to malt liquors. They prefer the "toddy" of the palm tree; but it may be said to their credit that they are not much given to intoxicating drinks. The stimulant of the betel nut, with its accompanying condiments, and the hookah pipe seem to satisfy most of them.

LOCAL BREWING—INTRODUCING AMERICAN PRODUCT.

In 1850 an experimental brewery was established by an army officer in the Neilgherry Hills, in southern India, which is still in operation. There are breweries at Bangalore, Simla, Kussowlee, and several other hill stations, where mountain water can be obtained. Those who become accustomed to the Indian-made beer prefer it to the imported. It is cheaper than the imported article, and seems to have as much body and as good a flavor.

A few of the mountain tribes brew a kind of beer for themselves, but nothing of the kind is done by natives on the plains. In the hills sheroo, a kind of small beer, is made from rice. Other kinds of beer are made by hill tribes, but much of it the average white man would not touch. From 1874 up to 1900, the average importation of beer annually from England was about 1,500,000 gallons, valued at $1,166,146. The bitter ales manufactured at Burton-upon-Trent are imported to a considerable extent to meet the taste of Englishmen.

No doubt an active agent who would give his exclusive time to the introduction of American bottled high-class beer could succeed in a year or two in building up a good trade. It can not be done by circulars, placards, and trade literature. Intelligent personal, persistent effort will be necessary to introduce successfully American manufactured ales and beers or other American goods into India.

GERMANY.

DECREASED CONSUMPTION OF BEER—INCREASED USE OF SOFT DRINKS.

Consul George Nicolas Ifft, of Annaberg, finds that according to malt-tax statistics for the fiscal year 1906–7, the people of Germany during that year consumed 7,182,500,000 liters of beer (1 liter=1.0567 quarts), and paid an average beer tax of 45.7 cents for each man, woman, and child in the Empire. The consul continues:

An increased malt-tax rate became effective with the beginning of the year in question, and this is credited with materially assisting the antialcohol agitation in north Germany (Prussia, Saxony, and the smaller principalities), but in south Germany (Bavaria, Wurttemberg, Baden, and Elsass-Lothringen) seems to have had the opposite effect. While in south Germany the consumption of beer everywhere increased, in north Germany it fell from 100.7 liters per capita for the year 1905–6 to 98.4 liters for 1906–7. With this reduced consumption, however, the higher malt-tax rate raised the average per capita beer tax of north Germany from 20½ cents for the former year to 30½ cents for the latter year.

PEOPLE TURNING TO SOFT DRINKS.

The consumption of brandies, wines, etc., shows no gains as a result of the decreased use of beer; but there is a noticeable increase in the consumption of all kinds of soft drinks, nonalcoholic beverages, and so-called temperance drinks. These, especially the endless varieties of carbonated beverages, are increasing steadily in popular favor and during the summer are everywhere much in demand. The statistician naively remarks that not only women and children, but also tourists, bicyclists, automobilists, etc., are beginning to prefer such drinks to beer, and also that the workingman is more and more turning to these beverages. He notes the fact that many large industrial concerns have recently placed these beverages on sale at their canteens as an evidence of a growing demand for the soft drink among the laboring classes.

While the beer consumption in north Germany has decreased, in Elsass-Lothringen, which heretofore has had the smallest per capita beer consumption in the Empire, it increased from 83.1 liters in 1900 to 94.8 liters in 1906–7. In Bavaria for the last year the per capita beer consumption was 238.9 liters; in Wurttemberg it was 172.8 liters, and in Baden it was 161.3 liters.

The receipts from the malt tax for the year 1906–7 were as follows: North Germany, $14,809,100; Bavaria, $8,304,500; Wurttemberg, $2,085,600; Baden, $1,861,400; Elsass-Lothringen, $1,018,400; in round figures a total of $28,079,000 for the entire Empire, an average of 45.7 cents per capita. For the year 1905–6, the receipts were $22,752,800, an average of 37.4 cents per capita, and the consumption was 7,244,200,000 liters.

VENEZUELA.

BEER IMPORTS SMALL—LOCAL BREWERIES SUPPLY HOME DEMAND.

Consul Thomas P. Moffat, of La Guaira, supplies the following information concerning the importation of beer into Venezuela:

According to statistics recently published by the Venezuelan Government covering the six months ended December 31, 1906, the imports of beer into the Republic during that period amounted to $37,500. Of this amount beer valued at $33,000 was received from Germany; $4,400 from England and Holland, and $100 from the United States. These figures do not of course represent the value of the beer consumed in the country, taking no account of the product of local breweries, which is sufficient to supply the local consumption. The demand for German beer comes largely from Germans resident in the country, of whom there are several thousand, who desire their home brew in preference to others. While the excellence of many American beers is acknowledged by the consumers generally, yet it is rather doubtful if it will ever find a very extended or growing market here. The import duty on beer has recently been advanced, which may possibly adversely affect the quantities of the article hereafter imported.

UNITED KINGDOM.

A YEAR'S STATISTICS OF CONSUMPTION OF SPIRITS, WINES, AND BEER.

Consul John N. McCunn, of Dunfermline, Scotland, furnishes the following statistics concerning the consumption of all kinds of liquors in the United Kingdom during the year 1906:

With a total population of 43,659,121, the United Kingdom expended for liquors of all kinds during 1906 the sum of $809,681,829, or an average of $18 per capita. Of this amount $495,187,316 was spent for beer, the quantity consumed being 33,891,101 barrels; $253,201,812 for spirits, or 39,302,402 gallons; $53,992,951 for wine, or 12,328,691 gallons; $7,299,750 for other liquors, or 15,000,000 gallons. The per capita expenditures for spirits was $5.82, beer $11.35, wine $1.25, and all other liquors 12 cents.

The consumption of beer per capita in England, Scotland, and Ireland was 31.4, 9.5, and 21 gallons, respectively; of spirits, 0.8, 1.6, and 1 gallons; of wine, 0.3, 0.3, and 0.1 gallon; and of other liquors, 0.4, 0.01, and 0.1 gallon.

CANADA.

A GOOD MARKET FOR AMERICAN BEER IN QUEBEC.

Consul James H. Worman, of Three Rivers, writes that there is considerable business done in the importation of beer into his Canadian consular district. He adds:

There are so many foreigners in the district that there is a good demand for beers, and while the American product has to contend against English and Scotch brews, there is none the less a good market. The Germans have recently come in here with their Munich beers, and there is a determined effort by them to obtain a good footing. It is therefore important that American brewing concerns wishing to obtain an entry here should make immediate efforts. [Names of importers of beer at Three Rivers are listed for inspection at the Bureau of Manufactures.]

FISHERY PRODUCTS.

FRANCE.

POSSIBILITY OF INTRODUCING SUPPLIES OF AMERICAN OYSTERS.

Replying to an inquiry from Virginia as to whether it would be possible to establish a trade in American oysters at Paris, Consul-General Frank H. Mason reports as follows:

French people, at least Parisians, are very fond of raw oysters, but they know or care very little about cooked or preserved oysters in any form. They therefore demand oysters which are fresh and in the shell. Oysters that have been opened and canned fresh are, so far as can be ascertained, practically unknown in Paris, and it is doubtful whether they could be introduced with much chance of success. Unfortunately two or three attempts have been made to introduce in Germany, France, and other European countries an inferior grade of American oysters which had been protected against deterioration by the use of salicylic acid, which destroyed the natural flavor and subjected them to suspicion as "doctored goods."

Shell oysters are received here by agents at the great "Halles," or central markets of Paris, where they may be sold at auction to retailers, hotels, restaurants, and other large consumers. They come principally from the southwestern coast of France; from Ostend, in Belgium; and in small quantities from Great Britain. The total sales of native French oysters in 1905 amounted to 37,692,200, which were sold through the Halles for prices ranging, according to quality, from 40 cents to $4 per hundred.

MARKET BRANDS AND PRICES—AMERICAN COLONY.

The best brands for eating raw are the "Marennes," "Cancales," and "Armoricaines," and the retail prices of the well-known grades of shell oysters to-day at the dealers in the central part of Paris are as follows per dozen, values being in cents: Victoria (English), 70; Colchester (English), 70; Ostendes (Belgium), 50; Blue Points (American), 60; Marennes (French), 50; Belon (French), 50; and Armoricaines (French), 30. The three last named are for best quality. There are small, inferior grades of Marenne oysters which sell as low as 15 cents per dozen, but their use is not recommended by the sanitary authorities. The duty on oysters imported from the United States into France is 60 cents per 1,000, and on pickled oysters $4 per 100 kilos (or 220 pounds). The rates on oysters imported from other countries are 30 cents and $3, respectively.

There is a large American colony in Paris which would no doubt enjoy having a supply of American oysters, to be cooked and prepared as they are accustomed to have them served at home. Naturally they find Blue Points at 60 cents per dozen, or 5 cents each, a somewhat expensive luxury. Many Europeans do not like American oysters because they lack the coppery flavor, which all European oysters have to a greater or less extent, and to which consumers here have become accustomed.

For the most part, therefore, a newly established American oyster export trade to Paris would have to depend at the outset upon the patronage of the American residents or sojourners here. [The names of two dealers who might be addressed are filed with the Bureau of Manufactures.]

CHILE.

GOVERNMENT AIDS SALMON PROPAGATION—EXTENSIVE IMPORTS OF FISH.

Vice-Consul Stuart K. Lupton, of Valparaiso, reports that the propagation of salmon is developing in Chile in a way that promises good results in a short time. He adds:

The first experiments conducted in various streams in the Republic have demonstrated the fact that the salmon takes kindly to these waters, in consequence of which fact the chief of the section of rivers and forests has ordered the distribution of 200,000 fish from the hatchery of Rio Blanco in the rivers of the country. Eighty thousand have already been distributed in four rivers to the north of Valparaiso, while a commission has gone south with the remainder. The distribution is made with great care, and there is reason to believe that it will accomplish splendid results.

Both the congrio and corbina, the two best fish obtainable here, are becoming more difficult to secure, and it is to be hoped that this course will add the salmon to the rather short list of really good fish that are to be found in these waters.

In transmitting the foregoing report Consul Alfred A. Winslow adds that during 1906 the imports of salmon into Chile were 1,282,039 pounds, of which the United States supplied 1,011,802 pounds, valued at $100,720 United States currency. It is not likely the new propaganda will materially affect the imports of salmon for some years to come.

CANADA.

OFFICIAL RETURNS ON SEASON'S HERRING CATCH ON THE WEST COAST.

Consul Alfred J. Fleming, of Yarmouth, reports that the Canadian fisheries inspector for the Maritime Provinces has just made public his annual report on the operations of the past season on the west coast, which may be thus summarized:

He states that the American schooners carried away 57 cargoes, which included 68,770 barrels of pickled and 38,120 barrels of frozen herring, the total value of which was about $251,653. The Canadian vessels in the work during the season numbered 22, and Newfoundland had 8. These 30 vessels secured 23,040 barrels of pickled herring and 2,740 of frozen. The total value of the Canadian catch is estimated at $135,442, making the total catch for the season valued at $387,095.

The previous season there were 65 American and 41 British schooners engaged in this work, and they took away from the Bay Islands and vicinity 116,236 barrels of frozen and pickled herring, the value of which was $453,144. There was thus a decrease of $66,049 in value as against 1906. The industry was hampered during the past season by the mild weather, fishermen being compelled to salt a very large portion of the catch, and many of the fish were in poor condition when the vessels left port, this in a large measure accounting for the decreased valuation.

FRUITS.

BRITISH INDIA.

ATTENTION BEING GIVEN TO SUPPLYING ENGLISH BANANA MARKET.

The subject of supplying the English market with Indian grown bananas, more generally called plantains by Europeans and cheenichampa by the natives, is receiving considerable attention by the more enterprising people of India, states Consul-General William H. Michael, of Calcutta, who writes:

It is claimed that vessels properly fitted up can reach the Liverpool market from Calcutta in 25 days, and that several kinds of fruits, especially the plantain, can be laid down in Liverpool to compete with the West Indian banana, which now monopolizes the English market. It is stated that one firm in Liverpool has 13 vessels each of 3,000 to 5,000 tons capacity, and each one capable of stowing away 60,000 bunches of bananas without crushing or bruising the fruit. This trade has increased to vast proportions, and it is urged that India should have part of it.

The native East Indian banana is smaller by half than the fruit grown in Jamaica, Costa Rica, and along the coast lines of Central America, but the former is as rich in flavor, in fact possesses a "bouquet" all its own, and it is believed would become popular at once with European consumers. The East Indian banana, both yellow and red, grows abundantly throughout the southern provinces and the supply could be made practically unlimited. All the Indian needs to learn is how to cut the bunches at the right time, to handle without bruising the fruit, so that it can be landed in 25 days on the English market before it begins to get yellow. The only thing lacking, it is claimed, is the necessary transportation, and this will be forthcoming if encouraged. The fruit is in India and needs a market, and if enough money is raised to back the enterprise, it is believed that India can get her share of the banana trade of Europe and hold it.

OMAN,

DECREASE IN EXPORTS OF DATES—SHIPMENTS TO THE UNITED STATES.

A report from Consul William Coffin, of Maskat, gives the following particulars concerning the Arabian date crop:

The season began late this year and ended about a month earlier than in 1906. There was a slight advance over last season's prices. The total declared value of the shipments is $105,137, a decrease of $24,922 from the figures of 1906. The shrinkage is due to previous overimportation, some of the American firms having had to carry over 1906 dates in cold storage.

More than 50 per cent of this season's shipments were made in direct steamers chartered to carry dates from Basra, Turkish Arabia, and Maskat to New York. Three consignments, valued at $9,000, were sent to San Francisco.

The records of this consulate show that the average annual export of dates from Maskat to the United States since 1882 is $50,163, the largest year being 1883, with $135,600, and the smallest, 1889, with $12,500. The prospects for a good crop of dates next year are favorable.

CHILE.

CLIMATE EXCEPTIONALLY FAVORABLE TO FRUIT GROWING.

Consul Alfred A. Winslow, of Valparaiso, reports that fair attention is paid to the growing of fruit in some portions of Chile, and with good success. He adds:

Were the same efforts made here as in the United States there could be equally as fine fruit raised. The climate is exceptionally suitable and a crop is practically sure, as there are no sudden changes in temperature to blight the buds. There is a good opening here for a nursery, but the best way to make a success of it would be to establish a branch, as the people need instruction, as well as trees. [The names of several fruit growers in Chile are filed for reference in the Bureau of Manufactures.]

NORWAY.

CONSUMPTION OF AMERICAN DRIED AND EVAPORATED APPLES.

Consul-General Henry Bordewich, of Christiania, states that American dried and evaporated apple products are freely used in Norway. The total annual import of dried apples exceeds 1,200,000 pounds, of which 150,000 pounds come from the United States direct, but a much larger part of the import is also American product sold to Norway by German jobbers, but is credited as imports from Germany.

The import duty on dried and evaporated apples is 5.3 cents per pound. [A list of names of the principal importers of groceries and fruits in Christiania is filed for reference at the Bureau of Manufactures.]

SICILY.

EXPORTS OF ORANGES AND LEMONS DURING LAST SEASON.

Vice-Consul Jacob Ritter, of Catania, reports that the shipments of Sicilian oranges and lemons from that Italian port for the season from September 1, 1906, to August 31, 1907, amounted to 3,405,684 boxes, against 2,886,269 boxes the previous twelve months. The orange exports advanced from 1,135,184 to 2,270,500 boxes and the lemons from 962,269 to 1,924,000 boxes. The United States took in 1906-7, 43,265 boxes of the citrus shipments against 17,187 boxes the previous season.

PEPPER PRICE DECLINE.

PLANTERS IN THE EAST INDIES EXPERIENCE A TRADE DEPRESSION.

Consul-General Thornwell Haynes, of Singapore, furnishes the following review of the pepper market of that emporium of the East Indies:

There are several kinds of pepper, but those produced in the East are generally the black, white, and long varieties, the first of which is most important. Singapore is regarded as the great emporium of this spice, exporting 14,316 tons, valued at $2,900,131, during 1906, and 8,644 tons of $1,501,740 value during the first half of 1907. Considerably more than half the quantity entering here comes from Johore, while Sumatra, Java, Penang, and Sarawak rank next in order. America takes more than any other country, the value being about one-fourth of the total export. Next follow Hongkong, Austria, Germany, and Russia.

Of late it has become difficult for planters who began or extended their business during the boom in the industry some four years ago to maintain their markets. To the effects of this boom the present ruin of so many planters in Upper Sarawak has been attributed. In relating the conditions in this region a writer recently remarked that while up to the present there has by no means been a shortage of crops the prospects of the planters are gloomy, and many of them during the past few months have become bankrupt, many, if not all, abandoning their plantations.

The planters are Chinese and their difficulties have come mostly by speculation, followed by a fall in the price of pepper. About four years ago the price advanced to 11 cents a pound, and, in the hope that it would be maintained, plantations were extended and others opened; but the present market value is about 4 cents.

Statistics show that the total quantity exported from Sarawak in 1904 was 3,496 tons; in 1905, 4,000 tons; and in 1906, 4,762 tons. Just what the conditions are in Johore, Sumatra, Java, and other pepper-growing countries I do not know, but it must be that growers are greatly injured owing to the continued fall in price.

FLOUR TRADE.

SICILY.

NO MARKET OPENING FOR AMERICAN PRODUCT—HOME MILLING GROWTH.

Vice-Consul Jacob Ritter, of Catania, describes the flour trade of that part of Italy as follows:

In former years the flour import trade of this consular district—provinces of Catania, Syracuse and Caltanissetta—was very important and large quantities of flour arrived here, but only from Italian continental places as Venice, Turin, Genoa, etc., and were handled by Catania dealers. However, things changed, the old system of every little baker and macaroni maker grinding his wheat by hand was abandoned, and especially during the last seven years a great number of new mills and several of considerable importance have been built and fitted with the best modern machinery. Every place of some importance has now at least one flour mill. Consequently the flour shipments from upper Italy diminished considerably, the local mills being not only sufficient to supply all the wants, but they ship now great quantities of grits (semola) from Catania to Italian continental ports. There is no importation of flour and it will be impossible for American flour to compete against the local mills. The import of wheat which is very considerable is exclusively hard wheat; the bulk comes from Russian Black Sea ports, but during the first part of 1907 several steamers from America discharged in Catania about 24,000 tons of macaroni wheat. The Russian is, however, preferred and sells for a higher price, as the grits (semola) obtained from this wheat, gives better results to the bakers and to the macaroni manufacturers. In many cases the millers make a difference against the American macaroni wheat of 11 cents a bushel. [The wheat importers of the Catania district are listed at the Bureau of Manufactures.]

BARBADOS.

EXTENSIVE AMERICAN SALES IN WEST INDIES.

In reply to an Illinois milling company Consul Arthur J. Clare, of Bridgetown, writes as follows in regard to the flour trade in the West Indies:

During the calendar year 1906 the imports of flour at Bridgetown, Barbados, aggregated 79,552 barrels, valued at $372,575. Of this quantity, 73,449 barrels of the value of $344,927 came from the United States, 4,528 barrels valued at $20,648 from Canada, and 1,575 barrels worth $7,182 from all other countries.

The American flour imported here is all shipped from New York, having been milled principally in Minnesota, Missouri, Illinois and New York. One well-known milling company of New York City has an immense trade throughout the British and French West India Islands and the British, French and Dutch Guianas. This company has its representative traveling through the islands and the Guianas all the year round with headquarters at Barbados. The increase in imports of flour from the United States in 1906 was $42,719 over the year 1905. The import duty is $1 per barrel. A surtax of 10 per cent is imposed on all import duties. [The Bridgetown importers of flour are on record at the Bureau of Manufactures.]

FORMOSA.

GOOD BUSINESS IN AMERICAN PRODUCT—MARKET REQUIREMENTS.

Consul Julean H. Arnold, writing from Tamsui, says that one firm there has been importing flour into Formosa direct from Seattle, and doing a splendid business. He adds:

Flour intended for Oriental trade should be packed in the regulation quarter-barrel bags (49 pounds). The Chinese trade demands a strong flour, and is well satisfied with the second-grade quality of the Washington mills, which furnish practically all of the 50,000 barrels of American flour coming into this market each year. As the price of rice remains high, the prospects for heavy shipments of flour during 1908 are bright. [Formosan importers of flour are on record at Bureau of Manufactures.]

WORLD'S COCOA TRADE.

YIELD OF VARIOUS COUNTRIES—AMERICA STILL THE GREATEST CONSUMER.

A German cocoa trade journal states that the cocoa crop of 1906 amounted to 149,020,695 kilograms (kilogram, 2¼ pounds), though the world's consumption that year amounted to 155,680,604 kilograms. The stocks on hand in the world at the end of 1906, amounting to 49,879,326 kilograms, were less than for a number of previous years. The details follow:

The following table shows the cocoa crops during the year 1906 and the two preceding years in the various producing countries of the world:

Country.	1904.	1905.	1906.
	Kilograms.	*Kilograms.*	*Kilograms.*
Brazil	23,160,028	21,090,068	25,135,307
San Thomé	20,526,000	25,379,320	24,619,560
Ecuador	28,564,123	21,127,833	24,237,639
Santo Domingo	13,557,739	12,784,660	14,517,669
Trinidad	18,574,434	20,018,560	13,162,869
Venezuela	13,048,838	12,700,555	12,864,609
British Africa	5,772,597	5,620,240	9,738,961
Grenada	6,226,700	5,455,600	5,057,030
Ceylon	3,254,800	3,542,613	2,507,152
Jamaica	1,650,000	1,484,509	2,503,142
Cuba	2,735,592	1,792,944	2,475,692
Haiti	2,531,363	2,343,200	2,107,905
Java	1,140,109	1,491,795	1,622,247
Fernando Po	2,010,766	1,862,945	1,557,864
Surinam	854,034	1,611,851	1,480,568
German colonies	1,100,153	1,454,153	1,367,977
French colonies	1,215,000	1,179,401	1,262,096
St. Lucia	800,000	700,000	800,000
Dominica	485,366	596,700	600,000
Kongo Free State	231,382	194,638	402,429
Other countries	800,000	800,000	1,000,000
Total	148,248,024	143,231,605	149,020,695

The world's cocoa crop of 1904 was greater than that of any previous year, exceeding the crop of 1903 by about 15,000,000 kilos, this increase in 1904 having been due to the exceptionally large crops in Ecuador, Brazil, Trinidad, San Domingo, Venezuela, and the Gold Coast. There was a decrease of about 5,000,000 kilos in 1905, but the yield in 1906 was the largest on record. Ecuador and St. Thome have given way in first rank to Brazil. Inasmuch as Brazil is easily able to increase its present cocoa cultivation to a far greater extent, it is quite possible that it will now continue to hold the foremost place as a cocoa-producing country. San Domingo is increasing its plantations, and is likely to become an important producing country. It and the Gold Coast of Africa are attracting the greatest attention among cocoa-yielding regions. Plant diseases caused the decrease in Ceylon, but it is expected that the 1907 statistics will show a recovery.

Of the 1,262,090 kilos produced in French colonies in 1906, Guadeloupe furnished 675,322, Martinique 472,897, French Kongo 89,587, Guiana 15,697, Madagascar 8,297, and Reunion 290. The German colonial yield of 1,367,977 kilos was divided among Kamerun 1,247,121, Samoa 92,219, ad Togo 28,637.

The consumption of cocoa in the various countries of the world during the year 1906, as compared with the two previous years, is shown as follows:

Country.	1904.	1905.	1906.
	Kilos.	*Kilos.*	*Kilos.*
United States	33,159,628	34,958,420	37,654,478
Germany	27,101,400	29,633,100	35,260,500
France	21,799,600	21,747,600	23,403,800
United Kingdom	20,552,664	21,106,000	20,132,040
Netherlands	12,184,400	10,737,400	11,224,000
Switzerland	6,839,100	5,218,400	6,466,900
Spain	5,816,359	6,112,945	5,607,864
Belgium	2,792,008	3,018,997	3,865,810
Austria-Hungary	2,510,100	2,668,500	3,312,800
Russia	2,055,700	2,230,400	2,675,940
Italy	479,600	971,500	1,385,000
Denmark	996,000	1,125,000	1,100,000
Canada	600,000	654,088	1,035,182
Sweden	870,914	900,000	1,000,000
Australia	550,000	600,000	650,000
Norway	472,137	498,818	580,043
Portugal	180,000	138,000	150,000
Finland	63,099	60,000	86,252
Total	139,022,709	142,374,163	155,680,604

JAVA'S COFFEE IMPORTS.

SHIPMENTS OF THE BRAZILIAN PRODUCT INTO THE EAST INDIES.

Consul-General Thornwell Haynes, in a report from Singapore, says that coffee planters in Java contend that they are seriously injured by the increasing importation of Santos coffee from Brazil. He adds:

It is sold there at a price against which they say inferior Java coffee can not successfully compete. As the inferior sorts of coffee can not find a market in Europe or elsewhere, the governor-general of Java was petitioned to raise the present import duty on Santos coffee. The Samarang Chamber of Commerce advised against the petition on the ground that the decreasing output of Java coffee calls for the importation of foreign coffee to meet local demands. It also points out that inferior Java coffee readily finds buyers, and that the importation of Brazilian does not practically lower prices. A Singapore paper says:

Importers of Brazil coffee in Java have applied to the steamship navigation companies concerned for a reduction of freight on that article. The Santos variety especially is being imported into that island in steadily increasing quantities. The lowering of the freights charged will further stimulate the importation to the injury of Java growers.

AGRICULTURAL TOPICS.

FARMING INDUSTRY.

UNITED KINGDOM.

GOVERNMENT LEGISLATIVE AID GOES INTO EFFECT—WORKING PLAN.

In a report from Nottingham, Consul Frank W. Mahin states that the Small Holdings Act of Parliament, which took effect on January 1, and applies to England and Wales, is considered of much importance and of great possible value to that part of the country, a rich agricultural section. He discusses its workings as follows:

The act is an attempted solution of the land problem, and its object is to check the flow of population from country to city, to reverse the current, if possible, by making easy the acquirement and holding of small farms. A small holding is defined as a piece of land between 1 acre and 50 acres in size; or it may exceed 50 acres if its value be less than £50 ($243.32) by the income-tax assessment. The act also provides for allotments—tracts of 5 acres or less.

A small holdings act was passed fifteen years ago, but it proved abortive for lack of effective provisions to execute it. The new law is free from such defects, and apparently foresees every possible contingency. Its chief points are thus summarized:

(1) It sets up machinery to find out the extent of the demand for small holdings and allotments in England and Wales, and the extent to which it is reasonably practicable to satisfy that demand.

(2) It authorizes the taking of land compulsorily—that is, against the will of the owner—for small holdings and allotments, either by purchase or lease.

(3) It provides a cheap and easy process for acquiring such land, either in the case of purchase, at its fair market value, or in the case of leasing, at a fair rent, without any extra payment to the owner because he has to sell or lease.

(4) It provides considerable sums out of the taxes to be spent in the extension of small holdings.

(5) It enables voluntary associations to take part in the provision of both small holdings and allotments.

SYSTEM OF ALLOTMENT.

The Government board of agriculture and fisheries, which has charge of the working of the law, must appoint at least 2 persons, with a certain knowledge of agriculture, to be small holdings commissioners. Money for necessary expenses is provided from the national treasury—£100,000 ($486,650) for the remainder of the fiscal year from January 1 to March 31, 1908. The future appropriation is expected to be £200,000 ($973,300) a year. Local authorities must aid the commissioners. Any person wishing a small holding or an allotment applies to the commissioners or the local authority.

The local authority for small holdings is the county council. This body is similar to a board of supervisors in an American county. In the ways provided by the law, the council can take as much land as it deems necessary, divide it into small holdings, fence it, drain it or supply water, make roads, and erect or alter buildings. But land can not be taken from an owner of less than 50 acres, and a few other exceptions are made to prevent hardship or injustice. Compensation must be paid where land is taken from a lessee holding an unexpired lease. In other respects the law also protects the interests of owners and tenants of land. The council will act through a committee, to whom everything relating to small holdings may be referred with full power to act. Incorporated towns, parish councils, and urban district councils (there are many such councils in a county) are to provide allotments, and have the same powers regarding them as county councils have touching small holdings.

Eighty years' time may be had to pay the purchase price of land, by yearly installments. The law also enables those working on land to rent allotments or small holdings at a low rate and with secure tenure, thus removing one of the main causes of rural depopulation—the virtual impossibility to farm laborers of getting any land for themselves.

OFFICIAL FINANCIAL AID.

The land for these holdings will be bought and equipped with public money. The board of agriculture may repay county councils the expenses incurred in acquiring land, but not the purchase money, compensation, or rent. These costs it appears come from county funds. But it is not expected that any increase of taxes will result. In case of loss, the state would bear at least one-half, and still more if shown that the county was not at fault.

It is probable that cooperation among the occupiers of these tracts will figure largely in buying, marketing, dairying, harvesting, etc. It is proposed that as far as practicable the holdings be established in groups, so that essentially the same working as that of a large farm may obtain. It is believed this would be a great stimulus to the enterprise, if not necessary to its complete success.

There can not, however, be failure because of lack of official action. If a local council neglects to act, it is the duty of the commissioners appointed by the board of agriculture to stir up the council, and if it continued to be derelict the board of agriculture would act for it. This feature of the law will prevent its being a dead letter.

The authorities in the counties of this consular district are at work on the preliminary arrangements. Applications have already been received for several thousand acres in Lincolnshire. No statement as to the applications in the other counties has yet been made.

ASIATIC TURKEY.

DEVELOPMENT OF FARMING LANDS—AMERICANS INTERESTED.

Consul E. L. Harris, of Smyrna, supplies the following information concerning agriculture in Asia Minor:

Some of the finest farming land in Asia Minor, situated along the Smyrna-Aidin Railroad, is owned and operated by Americans. Until within recent years farming for the most part has been in the hands of large Turkish landowners, but of late Europeans, attracted by the climate, have purchased large tracts and commenced raising tobacco, cotton, and cereals upon a scientific basis hitherto unknown in this part of the world. The foreigners who now own farms in this vicinity are chiefly English, Dutch, Germans, and Greeks. The American farm owners are naturalized citizens, formerly of Greek nationality.

Those who own large farms in this vilayet or province and who do not wish to operate them on their own account usually make the following arrangement: The peasants are supplied with dwellings and stables and are permitted to work the land free of monetary rent. As a usual thing a landowner furnishes seed, together with small sums of money free of interest, which are required during the year. The peasant tills the land and gathers the crops. From the total amount the Government receives as a tithe 13 per cent, the remainder being divided equally between the landlord and tenant. The usual winter crops are wheat and barley. The summer crops are corn, sesame, and in some localities cotton.

INTRODUCTION OF MODERN FARMING MACHINERY.

On a 4,000-acre farm lying south of Nazli, which is owned by an American, there is a considerable amount of American machinery in use. A few years ago the owner imported a traction engine, two large centrifugal pumps, together with the necessary pipes for irrigating purposes, reaping machines, and grinding mills, all from the United States, at a cost of over $10,000. Another American citizen of Greek descent owns a farm of 25,000 acres within 20 miles of Smyrna, of which 15,000 acres are arable. The owner of this property is gradually introducing improved agricultural machinery. American plows and harrows are already in use. Binders have been tried, but were not successful owing to the small size of horses used for draft. The purchase of a thrasher is contemplated in connection with a water wheel as motive power.

The two railway companies of Smyrna have always shown considerable interest in the sale of agricultural implements. They have authorized their station masters to act as agents for two local firms who make a specialty of farm machinery and appliances. The Ottoman (Aidin) Railway Company, an English corporation, gives the preference to English plows made after the American type. The Smyrna and Cassaba Railway, a French company, favors a well-known make of American plows.

TOBACCO CULTURE DEVELOPING—POTATOES AND BEESWAX.

The culture of tobacco in the neighborhood of Smyrna and at ancient Ephesus is prospering as a whole, and the annual output is gradually increasing. It is no longer grown for local consumption, but rapidly developing into a lucrative export trade. The tobacco produced at Ephesus is usually mixed with the better qualities grown in Macedonia. The annual consumption of cigarettes in Turkey is estimated at 150,000,000. Cigars are rarely seen in the country districts of Asia Minor, and as a rule can only be purchased in Smyrna, where they are only smoked by the European inhabitants.

Tobacco grown in the vicinity of Smyrna is shipped to the United States in considerable quantities. During the fiscal year 1906 the shipments amounted to $151,102, which increased to $210,107 for the same period of 1907. There are two American tobacco firms represented in Smyrna, with independent factories. One firm employs as pickers 325 girls and 75 men, and the other firm 100 pickers. They earn on an average about 20 cents a day. The term picker must not be understood as meaning the laborers who work in the field, but those who work in the factories picking and assorting the leaves from the stems. Since these two companies commenced business the production of tobacco in this section has doubled, amounting in 1907 to 7,000,000 pounds.

The province of Smyrna does not produce its potato supply. The fact that Asia Minor is a great fruit-producing country has acted as a drawback to the cultivation of the potato. However, the culture is increasing and the imports are steadily falling off. For the purpose of seed 1,000 sacks of French potatoes are imported into the district every year. They are entered duty free. Until recently Marseille and Malta practically supplied this market with potatoes. Now those from Italy have the best sale. The value of the potatoes imported during 1906 was $43,450.

The export of beeswax from Smyrna, amounting to about 70,000 pounds annually, is drawn from the interior and the islands of the archipelago. The price ranges from 36 to 38 cents per pound.

RUSSIA.

GOOD HARVEST IN POLAND AND CONTIGUOUS REGION—LABOR SHORTAGE.

Consul Hernando de Soto, of Warsaw, reports that, in spite of incessant rain and serious damage by hail during the greater part of last summer, the harvest of cereals in that Russian district, embracing Poland, and Kowno, Vilno, Grodno, Minsk, and Volhynia, exceeded the general expectations. The details follow:

The following table compiled by the Russian board of agriculture shows the estimate of the average crop of rye and spring wheat per acre as compared with 1906:

	Rye.		Spring wheat.	
	1907.	1906.	1907.	1906.
Poland ....pounds..	864	907.2	918	1,047.6
Minsk ....do....	451.6	594	626.4	702
Vilno ....do....	604.8	594	529.2	615.6
Kowno ....do....	907.2	756	723.6	939.6
Grodno ....do....	723.6	723.6	820.8	799.2

The prices of cereals per pood of 36 pounds in the beginning of October, 1907, as compared with 1906, were as follows:

	1907.	1906.
Wheat, first quality ....cents..	68 to 72	49 to 51
Wheat, second quality ....do....	66 to 67	46 to 47
Rye, first quality ....do....	56 to 58	39 to 40
Rye, second quality ....do....	54 to 55	37 to 38
Oats, first quality ....do....	53 to 54	43 to 45
Oats, second quality ....do....	46 to 48	40 to 42
Barley for brewery purposes ....do....	54 to 56	46 to 50
Barley for sowing ....do....	49 to 51	39 to 41

The hay crop was short and clover a complete failure in Poland, hence a shortage of fodder is already keenly felt, and in several governments the farmers are selling their cattle at any price, which often does not exceed one-third of the real value.

POOR YIELD OF POTATOES AND HOPS—GOOD BEET CROP.

Bad weather did serious damage to potatoes throughout Poland, resulting practically in a failure of the crop. This is considered most disastrous, as potatoes represent the staple food of the peasants and an important source of income to the farm owners, who sell the potatoes to the spirit refineries and starch factories. The chief variety of potatoes grown in Poland for manufacturing purposes is of Silesian origin. In the other Russian governments, such as Minsk, Vilno, and Volhynia, the potato crop was more satisfactory, but also remained below the average. The quality of the potato crop was generally unsatisfactory.

Beets were the least influenced by the unfavorable weather and the past year's crop is considered a good one. During the last two or three years beet cultivation has been in favor with the peasants or small farmers, the area having increased by 5,757 acres as compared with 1906. If this increase continues it will soon be possible to supply the demand of the factories, thus excluding the importation of beets. Last year's crop is estimated at 23,910,331 hundredweights—an increase of 1,655,863 hundredweights over 1906 and 2,875,064 hundredweights more than the average yield during the past five years. The crop contains from 17 to 20 per cent of sugar.

Unseasonable weather delayed hop picking, and the total yield was only 20,000 hundredweights, which is much below the record yield of 1905. The cultivation of hops in Poland has been diminishing during the past years on account of shortage of field hands and increase of wages. The quality was in general good, the hops containing from 10 to 12 per cent of lupoline.

The shortage of field hands in Poland was considerable during harvest on account of the usual annual emigration of peasants to Germany, where higher wages are paid. In Lomza, Plock, Suwalki, Minsk, and Vilno the dearth of field hands was largely due to the emigration of peasants to the United States.

BRITISH INDIA.

EFFORTS BEING MADE TO LOWER COST OF PRODUCING NATURAL INDIGO.

Consul-General William H. Michael, writing from Calcutta, sends the following information concerning India's efforts to regain the indigo trade:

During the five years preceding 1904–5 the total acreage annually under indigo cultivation in India was 755,900. In 1905–6 this area had decreased to 330,400 acres, or a falling off of a little less than 44 per cent. During 1906–7 the acreage decreased to 329,800. Under new methods of cultivation and more economic processes of extraction, which are claimed to have been discovered in India, it is said that natural indigo can be produced more cheaply than synthetic indigo, and therefore it is confidently predicted that the Indian indigo crop will rapidly increase in acreage and in the quantity of indigo produced.

I recently endeavored to get from a German official the lowest cost at which synthetic indigo could be produced, but he said that the synthetic indigo company in which his family were largely interested guarded that point very carefully. The secret was known only to two employees—one retired foreman who, though practically unemployed, was paid a good salary for keeping the secret, and the other the active foreman in charge.

I was strongly impressed, however, by what the official said with the idea that the lowest possible point had been reached in the cost of producing synthetic indigo; and that the future profits in its manuture depended largely on underselling natural indigo long enough to drive it out of the market, thus creating a condition that would permit a substantial advance in the manufacturer's price of the artificial commodity. The belief is very general among indigo producers in India that if they can find a way to produce indigo at a somewhat lower rate they will regain the market and destroy the synthetic indigo industry; and this they say has been discovered.

The total area planted to indigo in 1907 in the United Provinces was 47,319 acres, or an increase over the previous year of 6,935 acres. Good prices prompted this increase. The outturn will be about 80 per cent of normal. The product is estimated at 6,871,200 pounds, or 10 per cent increase over the yield of 1906.

It is officially reported that the 1907 indigo crop in the Punjab is very poor. The area sown was about 58,000 acres, which is 7 per cent under the acreage of 1906. The yield is reported at 1,072,000 pounds of dye and about 2,498,000 of seed.

CANADA.

MANITOBA'S PROFITABLE RESULTS FOR PAST SEASON.

Consul John Edward Jones, of Winnipeg, transmits a report on Manitoba's crops for the year 1907:

The total grain crop for the province was 99,102,679 bushels. Of this amount 39,688,266 was wheat, an average of 14.22 bushels per acre. The yield of oats was 42,233,140 bushels, giving an average per acre of 34.8. A total of 16,752,724 bushels of barley was harvested, averaging 25.7 bushels per acre. There were 5,092,161 bushels of potatoes grown, with an average of 157.2 bushels per acre. The total area under grain was 4,707,483 acres, and the total area under all crops was 4,834,817 acres. In the grass crops the following averages are recorded per acre: Brome, 1.38 tons; rye, 1.41 tons, and timothy, 1.3 tons.

Upon comparison with the figures of last year it is found the average yield per acre of grain is considerably lower, but this has been in a measure compensated for by the better prices. The shortness of the season was largely responsible for the shortness of the crop. The southern portion of the province suffered from drought during the summer, while the northwestern section was abundantly favored.

The value of new farm buildings erected during the year is placed at $1,733,825, as compared with $4,515,085 for last year.

These excerpts are compiled from the annual report of the Department of Agriculture. The report also lays stress upon the necessity of good farming, the investigations showing that much of the poverty of the crop was due to indifferent and careless tillage. The report shows a falling off in the total output of dairy products. The late spring is charged as being largely responsible for this, the farmers being compelled to feed their cattle until quite late in June. It is stated that 80 per cent of the cheese factories and creameries report an increased number of cows belonging to the farmers who patronize them.

Particular attention is called to the importance of poultry. Great shipments come from the eastern provinces of Canada and the United States, and it is pointed out that no good reason exists why the farmers of this province can not raise sufficient poultry to satisfy the demand.

GERMANY.

GOVERNMENT REGULATIONS TO PREVENT FARM ACCIDENTS.

Vice-Consul-General Charles A. Risdorf, of Frankfort, forwards a copy of the official regulations issued by the German Government to proprietors of farms and manorial estates, regarding the obligatory alterations of agricultural machines, tools, implements, and buildings to avert accidents. The illustrations show the necessary changes in colors. The police is authorized to control the exact enforcement of this law and eventually to impose fines. In case of accident the association examines into the circumstances and declines to pay insurance money, if it is found that the rules have not been strictly complied with. [The regulations will be loaned to manufacturing firms making application to the Bureau of Manufactures.]

JAPAN.

STATISTICS SHOW EXCELLENT WHEAT AND BARLEY HARVESTS.

Consul-General Henry B. Miller forwards from Yokohama the following newspaper announcement regarding cereal crops in Japan for the past year:

> Returns made by the department of agriculture and commerce show that the actual production of wheat and barley in the Empire for 1907 was 22,167,486 koku (koku about 5 bushels), showing an increase of 1,802,226 koku, or 8.8 per cent, on the figures for the preceding year, and an increase of 2,654,012 koku, or 13.6 per cent, as compared with a normal year. The success of the harvest is ascribed to the regular weather which prevailed after the sowing. Over a small portion of the Empire the growth of the plants was impeded by rain, but the weather improved again shortly before the ear developed, and fine weather then continued. The actual harvest showed an excess of over 1,800,000 koku compared with the forecast issued in June. The wheat and barley harvest is reported to be the highest on record in Japan.

CHEMICAL MANURES IN EGYPT.

INCREASING IMPORTATIONS, ESPECIALLY OF NITRATES FROM CHILE.

Consul-General L. M. Iddings, of Cairo, reports that the export of chemical manures from South America to Egypt has increased from 20 tons in 1904, and nothing in 1905, to 2,798 tons in 1906, valued at $136,500. Mr. Iddings adds the following trade particulars:

This increase is due partly to the greater area of cultivable land, owing to the Assouan Dam and other irrigation works, and partly to the fact that the fellaheen cultivators are endeavoring to grow cotton once every two years instead of once in three, and are beginning to realize that it is necessary to restore to the soil the nourishment taken from it by the cotton.

The chemical manures used, with average prices per ton c. i. f., Alexandria, including the packing of the manures in double sacks are as follows: Nitrate of soda, $60.88; sulphate of ammonia, $63.31 to $64.53; superphosphates, $15.10 to $16.07.

The only manures manufactured in Egypt are sewage and slaughter-house products worked up by the Cairo Sewage Transport Company, for which a good market is found. The market for chemical manures is open to any manufacturer or merchant, as there is no monopoly for the import of artificial fertilizers, and also because the Government has ceased lending money to the Khedivial Agricultural Society at a low rate of interest, i. e., 2 per cent per annum.

The imports of chemical manures are allowed duty free into Egypt, and there are special reduced rates on the state railways for carriage into the interior.

Chile is the principal source for nitrate of soda; Belgium for superphosphates, and Glasgow is the main port of shipment for sulphate of ammonia. Belgium and Great Britain have led in the shipment of chemical manures until 1906, when South America rose to second place, with a tonnage of 2,798 as against Belgium's 8,063, and Great Britain's tonnage of 1,811. It is worthy of note that as yet the United States have not entered into the Egyptian market; all chemical fertilizers which are imported from South America are direct cargoes of nitrate of soda from Iquique, Chile.

ARTIFICIAL IRRIGATION.

CHILE.

INCREASED INTEREST AND LARGE POSSIBILITIES ARE MANIFEST.

Consul Alfred A. Winslow, of Valparaiso, makes the report that the agricultural interests in Chile are giving irrigation much more attention than ever before. His statements continue:

The two or three dry years preceding the present are largely responsible for this. Over quite a portion of what had been considered fairly good farm lands crops for those years were almost total failures. The lack of moisture is the principal cause of the failure to have a fair crop in this country, unless it be on land that has been seeded with the same crop for several years in succession. The soil of Chile is naturally very productive and will grow almost anything if water can be supplied.

There are a large number of small rivers running down from the snow-capped Cordilleras that can be made to turn their valleys into productive farms were scientific irrigating methods adopted, where at least two crops of corn, potatoes, garden vegetables, beans, etc., could be grown each year. The possibilities along this line are great and with a good market for all in sight.

The Chilean Government understands this and encouragement is given to those who seriously undertake the work. The poor native, of course, can do practically nothing along this line, for it requires capital to develop the system. The Government of Chile has not as yet gone so far as to construct a public irrigation system, but this may come soon. At present there are several valleys partially under irrigation, with good results.

BRITISH INDIA.

EXTENSIVE PLAN FOR SUPPLYING WATER TO THE PUNJAB.

According to Consul-General William H. Michael, of Calcutta, it is proposed by the British India government to link the five rivers—the Indus, Jelum, Chenab, Beas, Ravi and Sutlej—together in such manner as to equalize the flow of water when one river or more is in flood and thus supply the whole canal system connected with these rivers. Mr. Michael continues:

By this arrangement the Punjab (the meaning of Punjab is five rivers) will be given a water supply for irrigation sufficient at all times. The decision of the government of India to adopt the northern alignment for the Sind-Bombay connection railroad, partly on military grounds and partly owing to the objections raised by the Rao of Cutch to the southern alignment, puts an end, for the present at least, to cooperation between the irrigation department and the railway company, which was expected to effect great benefit in that part of the Punjab through which the lines would have run.

In time, when the great irrigation projects in the Punjab, now in course of construction, shall have been completed the irrigation department will take up the scheme of drawing and rendering fit for cultivation the lowlands and salt marshes which make up what is known as the Runn of Cutch. It is claimed that the irrigation department has work in hand on plans that have been adopted to engage its time, energies, and available capital for thirty years.

CANADA DAIRY INDUSTRY.

FALLING OFF IN EXPORTATION OF PRODUCTS—HIGH FOOD PRICES.

Consul H. D. Van Sant, of Kingston, sends the following information concerning dairying in Canada:

At the last meeting of the Eastern Ontario Dairymen's Association, on January 8, 1908, the president reported:

> We regret to say that the dairy season of 1907, as far as the export movement is concerned, has been disappointing, the exports of both butter and cheese showing a marked falling off from those of last year, as well as being considerably short of the average of the past five seasons. The aggregate value of Canadian cheese and butter exports for 1907 will be in round numbers about $23,000,000 against $29,000,000 for 1906. Increased prices may be expected this coming season, with resultant bare markets.

Another report from this district and Montreal states:

> Seldom if ever before was the prospect for the production of cheese so gloomy as at present. This is owing to the immense number of milch cows that farmers have been forced to sell this fall, at whatever price they could get, on account of the great scarcity of hay in some of the principal dairy sections of Canada and the unusually high price of foodstuffs.

In this section farmers are feeding their cattle on the bare corn stalks, for which they pay $4 per ton of 2,000 pounds. Hay in Kingston has not been so high in price in years, while more cattle have been exported to the United States at low prices than for some time past. The outlook from our information is that it will take two years or more to restore normal conditions, while the increased output of butter and cheese in Denmark, Belgium, and the United States will have a tendency to make it more difficult for Canadian butter and cheese product to hold for the time the long lead obtained in the export market in 1906 and previous years. At the convention referred to the following resolutions were passed:

> That this convention urge upon the Dominion government the desirability of taking a census of cattle and the make of butter and cheese, both in factories and on farms throughout Canada; and that this convention urge upon the factory men the necessity of branding consecutively each vat of cheese with a designated number, the same number being placed upon the boxes as upon the cheese, in order that a fair and proper inspection of each shipment may be made, both by the buyers and the official referee at Montreal.

But notwithstanding an off year or two, the unbounded natural dairy resources of Ontario, together with the improvement of methods in cattle feeding and raising, are likely to keep the Province long in the lead as the principal butter and cheese exporting district of the continent.

FORESTRY PRODUCTS.

TIMBER INDUSTRY.

MEXICO.

VAST RESOURCES OF THE REPUBLIC IN FIRST-CLASS FINE WOODS.

Special Agent Arthur B. Butman furnishes the following information covering the timber area and the lumber industry of Mexico:

It is conservatively estimated that the area of first-class timber in Mexico comprises from 20,000,000 to 25,000,000 acres. The heaviest stumpage of pine and oak are found in the States of Chihuahua, Durango, Jalisco, Michoacan, and Guerrero, and the standing forests in these States compare favorably with similar timber in the United States and Canada, as regards quality, diameter, and extreme length of clear body. The best timber is still more or less remote from transportation, but projected railway extensions are constantly being carried out, which will furnish facilities for moving this, one of the great resources of the Mexican Republic.

OAK AND PINE.

The white and red oaks of Mexico comprise six species, including the "roble" oak, a very superior grade, which is claimed to have no peer as regards finish. Others show a superior quarter, also a fine grain, with thin sap, and will receive splendid finish. As evidence of the indestructible character of hard woods, I am told that oak posts after a period of thirty years standing in the ground show a comparatively sound texture, and that railway ties employed in the higher altitudes remain good without treatment for from ten to twenty years.

Mexican pine comprises six species, these being as follows: White, sugar, and bastard white; two fir, white and red; and a small percentage of yellow. I am informed that it has been authoritatively established that the first three mentioned pines, also the white or balsam fir, can be effectively worked on the Mississippi Valley Association grades, weighing about 2 pounds to the square foot. The weight of the balsam fir and bastard pine when dry (these being the two heavier) will not exceed 2¼ pounds to the square foot. The large percentage of clear or factory stock found in the timbers renders these varieties especially desirable for sash and door purposes.

RARE VARIETIES OF HARD WOODS.

There are also in Mexico some 25 varieties of hard woods not known to the lumber markets of the world, some of which, it is stated, might be easily classed with other precious hard woods. Mexico's mahogany and cedar rating is already well established in New York markets. The largest bodies of these fine timbers, or tropical hard woods, are to be found in the Gulf States, or, more definitely, on the Gulf of Mexico side of the Isthmus of Tehuantepec in the States of Veracruz and Tabasco. Among the chief of these valuable woods may be mentioned, with a brief résumé of their several characteristics, the following: The zapote mamey resembles walnut in appearance, is of a dark cinnamon-brown color, has about the same grain as mahogany, and is capable of a very high polish.

Zapote chico, of the same family as the zapote mamey, is practically one of the most valuable woods grown in the Tropics. The trees grow to a great size, the length of clear body being often 50 feet, and in sections of tropical Mexico are very plentiful. The sap, which is the chicle of commerce, is gathered in very much the same manner as the rubber sap. The business of producing this chicle has become a large and prosperous one in Mexico. The direct importations of chicle to the United States from Mexico for the three fiscal years 1904, 1905, and 1906 were $468,021, $463,090, and $394,084, while the additional and indirect American imports of Mexican chicle gum via Canada for the three years in question were $698,476, $747,572, and $881,247. The total exportations of chicle from Mexico, in metric tons, value not stated, for the same years, were 1,850, 1,855, and 2,182, of which practically all went to the United States direct or indirect.

The wood of this zapote tree is of a clear, deep reddish-brown color, very hard, but easily worked until thoroughly seasoned, when only the finest edged tools have any effect on its surface. The fiber is of such density that the wood sinks rapidly in water. Zapote door frames in the historic ruins of the Tropics of Mexico are almost as perfect to-day as when placed in position. The wood is susceptible of a beautiful finish, and is valuable for furniture. From various tests of driven piling for both railway and port construction it has been found that the chico zapote bears the test of a much longer period of endurance than oak. The sea worms will not attack it, and for withstanding the effects of either salt or fresh water, mud, wet or arid soil, it appears comparatively indestructible.

OTHER VARIETIES—TRANSPORTATION DEVELOPMENT.

Zapotillo colorado is another of the same family. This tree is often 3 feet in diameter and usually yields 50 feet of trunk without knots. The grain is very close, light in color, and takes a fine polish. Zapotillo blanco is a beautiful whitewood with yellowish tinge of even color and very desirable for inside house finishing.

The palo maria with a trunk from 50 to 100 feet long and clear of knots closely resembles mahogany in color, grain, and weight.

One of the best known woods of Mexico is red cedar. This wood, even in color and of fine grain, is extensively used for lead pencils and cigar boxes.

One of the most promising of the undeveloped Mexican woods is the granadilla, a kind of rosewood, in appearance equal to mahogany, color a rich reddish brown with darker wave line markings.

A beautifully and curiously marked wood is the galeado. The color is yellow, with heavy irregular markings of seal-brown, close grain, and very heavy.

Maccaya, much like hickory, and used by the Indians for wagon work, coralillo, guapage, huisch, jicoco, cork wood, of which there is a large amount in the Tropics, lignum-vitæ, and others of value might be mentioned.

Although vast stores of information regarding timber resources in many different countries have been accumulated, it would seem, according to those intimate with the timber resources of the Mexican Republic, that the great wealth contained in its forests is practically unknown to the lumber world. As before stated, the railroads are just beginning to open up the country in some of the lumber regions; but already narrow gage and logging railroads are being projected and others are in process of construction. Lumber companies are erecting new and enlarged mills, and the lumber industry of the Republic, which is but in its infancy, is certain to have a tremendous growth with the advent of transportation facilities.

I am informed that for the year 1907 probably 225,000,000 feet will cover all domestic production of manufactured stock, including hewn ties, and that it is safe to infer that the country has imported during the past year 70 per cent of its timber consumption, including construction timber, ties, etc.

RATING AND PRICES OF WOODS.

It would seem that Mexican timber resources offered a good opening for American investors seeking a field in this country. As regards the rating of Mexican woods in foreign as well as in home markets, the following are substantially the prices in American money, being per thousand feet:

Mahogany and cedar logs, shipped from Gulf of Mexico points f. o. b., New York: Laguna cedar, $45 to $60; laguna mahogany, $40 to $55; cedar from other points, $32.50 to $57.50; mahogany, from other points, $30 to $50.

The varieties of precious woods not known to the lumber markets of the world are even more plentiful in sections of Mexico than mahogany, and such to local cabinet workmen range in price from $100 to $125. There is no export duty on logs.

As regards the domestic product as sold in the markets throughout Mexico, recognizing no association grades, log or mill-run pine lumber receiving no attention as regards kiln drying or practical stacking, much of which is sold green from the saw, ranges from $17.50 to $32.50.

Managers of planing mills and sash and door factories in Mexico claim that it is impossible, owing to the demand, to secure stock which has been practically manufactured or dried, and in consequence they are forced to restack or kiln-dry all stock received before working the same, and even then it is worked at a great sacrifice.

First and second grade white oak, quartered, native stock, sells at about the same price as the American stock, $92.50.

COST OF LOGGING AND MANUFACTURING.

Regarding the cost of logging and manufacturing in Mexico I would state that the estimates which follow have been secured from parties who are operating sawmills in the country and who are recognized as conservative mill men. One company with plant located in the State of Durango, at a station on the International Railroad, states that the cost of lumber to them, which includes $3 for sawing, stumpage, etc., from stump to loading cars, is $8.50 per thousand, as they are paying a stumpage of 75 cents per thousand. These figures are based on operations in one of the roughest mountain sections in the Republic, where the use of aerial tramways is necessary for getting out the logs. Another firm, also operating in a mountainous district, states that the cost of cutting and handling amounts to from $1.50 to $4.50 per thousand, with an average of about $3. Manufacture in this instance costs from $1.50 to $2, which includes drying and delivery on cars, making total cost of about $4.75 per thousand from stumpage to finished product.

Standard-gage ties delivered at road cost for getting out from 7½ cents to 14½ cents for pine and from 12½ cents to 17½ cents for oak. Selling price is 45 cents for pine and 57 cents for oak.

Consideration should be given the fact that the mills manufacturing in Mexico are lacking in detail as regards supplying a finished product equaling that of the United States, so that notwithstanding the good quality of Mexican lumber, lack of drying, etc., in a practical manner, accounts for the difference in price.

LUMBER TRADE WITH THE UNITED STATES.

The United States imported from Mexico during the fiscal years 1904, 1905, and 1906 woods and manufactures thereof as follows:

Description.	1904.	1905.	1906.
Mahogany	$591,390	$326,868	$434,018
All other cabinet woods	96,930	115,851	83,114
All other, unmanufactured	36,055	39,150	29,835
Manufactures	6,354	4,719	6,006
Total	730,729	486,588	552,973

The exports of woods and manufactures thereof from the United States to Mexico are shown in the annexed table:

Description.	1904.	1905.	1906.
Timber	$489,689	$606,908	$1,076,334
Boards, deals, and planks	2,073,267	1,786,009	1,815,062
All other	619,746	716,787	755,182
Furniture	612,433	647,475	848,279
All other manufactures	446,822	466,774	668,080
Total	4,241,957	4,313,898	5,162,887

PRICES OF AMERICAN LUMBER IN MEXICO.

The wholesale prices of American lumber, f. o. b. Mexico City, are as follows, per thousand feet:

Description.	Prices.	Description.	Prices.
Yellow-pine finishings, No. 1	$47.50 to $50.00	Oak, first and second:	
Yellow-pine finishings, No. 2	45.00 to 48.00	Quarter-sawed white	$92.50
Edge-grain flooring, A	48.00	Plain white	80.00
Edge-grain flooring, B	46.00	Quarter red	88.00
Edge-grain flooring, A plain	42.50	Plain red	80.00

FRANCE.

PINE FORESTS NOW GROWN ON FORMER SAND DUNES AND MARSHES.

In transmitting a report concerning the methods employed in getting the highest possible returns from the cultivation of the pine in France, Consul D. I. Murphy writes from Bordeaux:

Prior to 1803, the 2,500,000 acres comprised in the Department of the Landes were little more than shifting sand dunes and disease-breeding marshes. This section is now one of the richest, most productive and healthful in France. This marvelous change has been brought about by the intelligent cultivation of pine forests. Immense forests now cover the country, the sand dunes and marshes have long since disappeared, and the wood, charcoal, turpentine, rosin, and kindred industries have brought wonderful prosperity to the entire department, which was formerly the most barren and miasmatic in France. The climate is now mild and balmy, the great change being wrought by the forests. The thin layer of clay beneath the sandy surface, formerly impervious to water, has been so pierced by the roots of the pine that there is now thorough drainage to the spongy earth below.

The manufacture of rosin, tar, turpentine, pitch, pyroligneous acid, wood vinegar, etc., is conducted about the same as in Georgia and the Carolinas.

The trees destined for "short life" are bled as soon as they are big enough to stand bleeding, when they have a circumference of a foot or 15 inches, the sapping of young trees being the only production of a new forest for a time, and when the "thinning out" time comes they are "bled to death," and the timber used largely for pit props, the English demand guaranteeing a steady and profitable market. The "standing trees," those giving promise of most vigor, are never tapped until they are about 3 feet in circumference. When these have reached the age of 50 or 60 years they are cut down, and utilized for telegraph poles, railway ties, etc.

According to recent reports, about 2,000,000 acres of the forests belong to private individuals and corporations and 125,000 acres to the Government. The Government now derives a handsome revenue from the forests, $95,811 in 1905, the last year for which statistics are available, against $640 in 1885, the first year showing any revenue therefrom, since which it has grown steadily.

To prevent the spread of forest fires, wide trenches are dug about limited areas, and the space kept clear.

SIAM.

GERMAN INTEREST IN CREATING NEW SOURCES OF TEAK-WOOD SUPPLY.

Vice-Consul Ernest Vollmer, in reporting from Tsingtau, China, that Germany is experimenting on a rather large scale with the planting of teak wood in some of her new possessions in the South Seas, gives the following information concerning this valuable timber:

In order to gain some first-hand information a German botanist recently made an extensive study of the teak woods of Siam. The following report gives some of the results of this investigation:

Teak (tectona grandis) is a tree reaching a great height, usually encircled by vines and climbers, found in commercial quantities mainly in Java, India, Burma, and Siam. In Java there are whole forests of teak, while in Siam the tree usually grows among other varieties in river bottoms, on temple sites, or on sidehills of an elevation not over 700 meters. The tree seems to prefer volcanic soil, and while it requires much moisture it is never found in swamps or in places where water stands in the wet season. The tree grows very fast during the first few years, but is not fit to cut before it is fifty years old. The teak region of Siam is about four degrees north and south by the same distance east and west. The wood is being very rapidly cut, is almost gone on the left side of the Mekong, and will be scarce in ten years at the present rate of consumption. In Burma it is scientifically cut, in India it is being planted on large areas, but in Siam the Government is only considering the present income with ruinous results. Englishmen from the neighboring States are in charge of the woods, but are usually inexperienced men and hardly accomplish any good.

Two years before being cut the tree is barked near the ground. This soon causes it to die, and by the time it is felled all the small limbs have fallen off. If this process is not gone through with, the wood does not have its normal strength, as the exposure seems to develop the oils in the wood, which give it the extraordinary durability. After being cut all the wood is floated down rivers to Bangkok, the center of the trade. All good territory is already held by foreign concessionaires, there being large English, Danish, and French companies. In Java and Burma teak land is also practically unobtainable any longer.

Teak wood, owing to the percentage of oil which it contains is very valuable in all cases where wood and iron or steel come together. It is very hard and practically immune to climatic changes. The main use of the wood is in shipbuilding, wagon making, and furniture, although it has recently come into use in the manufacture of portable houses for use in the Tropics. From 1902 to 1905 Germany alone is said to have used some 10,000 cubic meters (cubic meter = 35.316 cubic feet) of this wood for ships and wagons; all of this came from Siam and cost about $65 per cubic meter, with the price steadily advancing during recent years. Teak wood is the second article in value on the export lists of Siam, being second only to rice, but as already stated this state of affairs will end in a very few years, if Siam does not take better care of this valuable natural resource.

BRITISH INDIA'S TRADE WITH SIAM.

LARGE IMPORTS ANNUALLY—JAVA'S RIVALRY FOR THE TRADE.

Consul-General William H. Michael, of Calcutta, states that the annual trade of India with Siam, so far as available figures show, amounts to about $263,316. India took in 1906 from Siam 67,027 tons of teak out of a total of 96,837 tons shipped to all countries, and during the same period 116,966 logs of teak were sent from Paknampho to Bangkok. Java is becoming an active rival of Burma and Siam in the teak trade notwithstanding the teak wood of the former is not up to the standard of the latter in sizes and texture.

AUSTRALIA.

CROW'S-FOOT ELM VALUABLE FOR CARRIAGE AND WAGON PARTS.

Consular Agent Asbury Caldwell, of Brisbane, reports that for some time past the director of forests in Queensland has urged upon carriage manufacturers the value of "crow's-foot" elm as a timber for use in that trade. The consul adds:

He has just had an opportunity of inspecting splendid logs of this timber (procured from the Blackall range), which are being cut up to the order of a firm of wheel and carriage manufacturers in Brisbane, who have started a factory for the making of wheels, shafts, spokes, etc., of this timber. Expensive machinery has been imported for the purpose.

It is further stated in the press of this city that the supply of hickory in the United States is small, and the director of forests reports that with the hundreds of million feet of crow's-foot elm existing in this State an export trade should be established with the United States for the benefit of the enormous carriage and wagon manufacturing business. It is assured that the supply of this timber can scarcely be exhausted by any demands which may be made upon it by such export trade for at least a generation to come.

CANADA.

CONTROL OF LOG BOOMS IN RESTRICTED HARBORS.

Consul-General William Harrison Bradley, of Montreal, sends the following report on rules and regulations for the controlling and movements of booms of logs in restricted harbors in Canada:

The rules and regulations for the government of ports in the provinces of Nova Scotia, New Brunswick, Prince Edward Island, Quebec, Ontario, and British Columbia have been amended to strengthen the authority of harbor masters in controlling the movements of booms of logs in restricted harbors. A maximum penalty of $50 may be imposed for disobedience of the harbor master's orders.

RUBBER PRODUCTION.

PARAGUAY.

SEVERAL VARIETIES OF INDIGENOUS TREES AND PLANTS.

Consul Edward J. Norton, of Asunción, complies with a request from New York for information about the rubber resources of Paraguay, with the following review:

An article recently appeared in "La Union Latina," a newspaper of Asunción, in which attention was called to the commercial value and future possibilities of the undeveloped rubber-producing trees and plants of Paraguay. Among the exports of this country I find no mention of rubber since the published figures for 1901, when there were 301 kilos (kilo, 2.2046 pounds) shipped abroad. Upon investigating, however, I learned that during 1907 something over 2,000 kilos have been exported, principally to France, and these latter shipments represent the result of recent efforts made to develop the rubber industry in this Republic. Lack of capital has been, and is still, an obstacle which has obliged those interested in the production of rubber to work on a very limited scale.

The principal rubber-producing trees and plants of Paraguay are: (a) A species of the Hancornia speciosa, called by the natives "mangá icé" or "mangaba;" (b) the "manihot-glaziovii" of the mandioca species, and (c) many varieties of "lianas" or vines which grow in the forests of the Paraguayan Chaco.

The "mangá icé" is abundant in the northern section of Paraguay and is also found in the southern and central parts of the Brazilian State of Matto Grosso. It grows wild in open spots and in the clearings around the edges of the forests (but never in the forests themselves) and in the sandy soil so widely distributed over Paraguay. The tree attains a height of from 15 to 20 feet and bears a small fruit annually. This fruit contains the seed, and attempts at cultivation have shown that the entire fruit must be planted to insure germination. The wild growths of the mangá icé are widely distributed, but experiments have demonstrated that the tree responds quickly to cultivation. Ground is prepared for a nursery in which the fruit-bearing seeds are planted, and where the young shoots may be protected and shaded.

YIELD AND PRICES.

The trees grow rapidly and are ready for tapping in from five to seven years. Some of the largest trees are reported to be from 5 to 6 feet in circumference. In the experimental nurseries started some time ago, 60 per cent of the seed germinated and produced healthy plants. Experiments made as to the yield of rubber from the plants give an average of about one-half pound of gum from the first tapping. Subsequent tappings give better results and large trees have yielded over 4 pounds of rubber. There are immense numbers of the mangá icé in a wild state, but their growth is widely scattered and makes the cost of production rather expensive, more especially as labor in Paraguay is scarce. It has been estimated that 300 trees may be planted to each hectare (2.471 acres), and that upon reaching maturity the trees may be tapped every three years. This latter is a debated and rather undetermined point, as some claim that the tree may be tapped with safety every year.

The quality of rubber derived from the mangá icé is not of the best quality, but this may be due in a measure to the rather crude manner in which the sap is coagulated and the lack of capital to properly handle and prepare the product. Coagulation is now effected by placing the sap—a white liquid of about the consistency of cream—in water to which a small quantity of alum has been added.

The rubber thus produced has been sold to exporters in Asunción for shipment to Europe at prices ranging from $1.20 to $1.50 gold per kilo. [A small sample of this rubber may be seen at the Bureau of Manufactures.]

THE SUPERIOR MANIHOT VARIETY.

The second class of rubber-producing trees of Paraguay is the "Manihot-Glaziovii" of the mandioca species. This tree, it is said, is also found in Brazil around Ceará, and is also reported as being cultivated successfully in Ceylon and in the Congo Free State. It is a tree of rapid growth, and in Paraguay is found in the Chaco, or western portion of the Republic, where its growth is not confined to any particular soil, as it is found in swampy land as well as in the semiarid sections of the northern Chaco. Little is actually known here of the value of the product of the "manihot," as nurseries set out some time ago were abandoned on account of lack of capital, but the rubber of this tree is said to be much superior in quality to that of the "mangá icé," as some of it has sold for $2.30 gold per kilo.

The sap, also white, coagulates upon exposure to the air and the trees are said to grow to a height of about 40 feet, and first tappings from young trees yield about one-half pound of rubber. The production increases yearly until a maximum yield of from 10 to 12 pounds is secured.

The "Manihot-Glaziovii" is reported to be the most valuable of the rubber-producing trees of Paraguay. The different trees mentioned may be grown or cultivated successfully in the same plantation, although the young shoots of the manihot must be fenced to protect them from animals, who are very fond of the tender shoots.

The last group of rubber-producing plants found in Paraguay, the "lianas" or vines, are reported to yield considerable sap, and from the majority of these plants the gum may be extracted by the use of machinery, probably a process similar to that of treating the "guayule" shrub of Mexico. However, no reliable information is available at this writing regarding the value of these vines.

For much of the information contained in this report, I am indebted to two gentlemen [addresses on record at Bureau of Manufactures] who are anxious to develop this business and will be glad to answer inquiries that might lead to the development of rubber production in this country.

NICARAGUA.

VALUABLE CONCESSION AWARDED BY THE GOVERNMENT.

Consul Frederick M. Ryder, of San Juan del Norte, reports that the Nicaraguan Government has conceded the sole right to gather and export rubber from the public domain of the districts of San Juan del Norte and Siquia to Generals Valle and Ascension Flores for a period of ten years, dating from June 1, 1908, at an annual rental of $3,000 in gold. The consul adds:

It is rumored that these rights will be transferred to the Atlantic Industrial Company, which will then control the entire rubber product in the national forests of this Republic. The capital of this company is nominally $300,000 (gold), which is supposed to represent the value of three Government concessions, the most valuable of which was obtained for a term of ten years, at an annual rental of about $140 in United States currency.

CAMPHOR SALES BY FORMOSA.

GOVERNMENT IS OPENING OFFICES IN EUROPE AND UNITED STATES.

Consul Julean H. Arnold writes from Tamsui that the monopoly bureau of the Formosan government has decided to discontinue the sale of camphor through a foreign selling agent, the new plan being as follows:

Japanese commissioners are to be sent to New York, London, Berlin, and Paris to open offices in those cities for the sale of the bureau's products. In this way the monopoly bureau hopes to increase the government's revenues from the sale of camphor. The Formosa camphor industry became a government monopoly August 8, 1899. Since April, 1900, a British firm with offices in Formosa and Japan has acted as sole selling agents for the bureau's products. This firm's contract with the Formosan government terminates March 31, 1908, after which the monopoly bureau will sell its camphor through its commissioners as stated.

Since camphor became a government monopoly, the bureau has been able, by judiciously regulating the supply of the raw product, to advance considerably the price of camphor to consumers. The price finally became so high that the camphor industry of Fukien Province, China, which some years before had become inactive, revived, and during the past year large quantities of Fukien camphor entered the market in competition with the Formosan product, resulting in an enforced decline in prices. Moreover, synthetic camphor has also been placed in competition with the natural product. Present conditions point to continued low prices.

CHINESE VEGETABLE TALLOW.

EXTENSIVE UTILIZATION OF THE SEED PRODUCTS OF A TREE.

Vice-Consul-General Willard B. Hull, of Hankow, submits the following information on vegetable tallow gained through observations made on a recent trip into the country surrounding that Chinese port:

The vegetable-tallow tree (Stillingia sebifera), known to the local Chinese as the "Mu Tze Shu," is found in the mountainous and hilly sections of this province. The trees grow in large numbers through the valleys in a semirocky soil, and on the mountain sides to an altitude of 2,500 feet. The tree is of medium size, with heart-shaped leaves, which turn a brilliant red in the autumn. The seed pods are seen in abundance on the small branches of the tree, and contain three seeds about the size of a coffee bean, grayish white in color. In the report of the British consul on Szechuan he states that the vegetable-tallow tree produces pods containing four seeds, which leads me to believe that the tree of central China differs from that of Szechuan, as all the trees seen bore pods containing only three seeds.

As the autumn advances the pods dry up, exposing a cluster of three seeds. These are picked during November and at once stemmed and made ready for use. It was too early to observe the process of manufacturing, but I was told that these seeds were then steamed and the white exterior of the seed, which is the vegetable tallow, or "Pi yiu," is thus removed. A small brown seed remains, which is ground in the Chinese millstone, boiled, made into cakes and placed in a press, and a light-brown oil extracted from the kernel. This oil is known as "Tze yiu," or vegetable-tallow-seed oil, and is used by the natives as a burning oil and also for adulterating other more valuable oils, such as wood oil, etc. The refuse is used as a fertilizer.

INDUSTRIAL METHODS AND EXPORTATIONS.

The tallow is collected, melted, and put into large tubs, which serve as a mold. Blocks of wood are put into each cake, to which ropes are attached and serve as handles. In this form it is brought to the market in Hankow. I am told that the seeds as first picked yield in weight about 28 per cent of vegetable tallow and about 40 per cent "Tze yiu." The vegetable tallow sells in the market at from 10 to 11 taels per picul ($6.60 to $7.26 gold for 133 pounds) and the vegetable-tallow-seed oil at 8.4 taels per picul ($6.05 gold for 133 pounds), very small quantities, however, of the latter oil being brought here, as none is exported. The vegetable tallow is used by the Chinese principally in the manufacture of candles, it being of greater consistency than the other oils used for this purpose, and only a small quantity of the white wax is needed.

The vegetable-tallow business of Hankow is one of considerable size, most of it, however, being shipped to Europe. None has been shipped to the United States since early in 1906 and that consignment was made as a sample. The tallow is said to mix readily, and European firms find use for large quantities in the manufacture of soaps and candles. Great care must be taken in buying here, as much of it is adulterated by the addition of water and other oils, and most of the Hankow shippers have found it necessary to remelt all the tallow in the presence of the native seller, and so remove any foreign matter, the sound cargo then being purchased at about the prices named.

During 1905, according to customs returns, 20,159,200 pounds were exported from Hankow, while in 1906 the business increased to 26,872,533 pounds. Up to November 15, 1907, returns show 26,828,800 pounds exported, so that another increase for 1907 may be expected, as the current crop at the end of November had not yet reached the market.

[Samples of the seeds of the vegetable-tallow tree forwarded by the vice-consul-general may be seen at the Bureau of Manufactures.]

SPANISH STAVE MARKET.

AMERICAN PRODUCT PREFERABLE—IMPORTS INCREASING.

Consular Agent A. E. Carleton, writing from Almeria concerning the importation of American staves into that section of Spain, says:

In 1907 about 500,000 oak staves were imported from New Orleans and in 1908 a greater number will be received, owing to the increasing crop of the Almeria white grape. The grape growers prefer the American stave, claiming that no other wood is so good for the preservation of the fruit. The cost of these staves is greater than those shipped from Portugal and the north of Spain. Oak staves, divided into three classes, cost, approximately, per 1,200 pieces, as follows: Extra double $407, extra $326, and culls $245.

The oak barrels are made here and in the province, whereas the pine barrels are, as a rule, imported "knocked down."

About 1,000 persons are occupied the year round in the manufacture of the barrels. Several attempts have been made to use modern machinery, but the shippers are extremely conservative and wish to avoid as far as possible the machine-made product. The cost of manufacturing the oak barrels is from 37 to 41 cents, and of the pine barrels from 29 to 33 cents. [The names of the leading manufacturers of barrels in Almeria are listed for inspection at the Bureau of Manufactures.]

YLANG YLANG CULTIVATION.

PRODUCTION OF A VALUABLE TREE IN COCHIN CHINA.

Writing from Singapore, Consul-General Thornwell Haynes states that in the province of Bienhoa, Cochin-China, it is reported that the cultivation of the ylang ylang tree, which is so famous for its yield of perfumery essences, has been taken in hand on several estates with satisfactory results. The high price given for ylang ylang essence makes the cultivation of the tree highly remunerative. It is stated officially that two acres planted with 300 trees may give 6,500 pounds of flowers which at the least may yield 33 pounds of essence. At $18 per pound this would mean nearly $600.

TEXTILES.

BRITISH LINEN MANUFACTURE.

IRELAND.

PROCESSES IN ULSTER—AMERICA IS THE BEST CUSTOMER.

Consul Samuel S. Knabenshue, of Belfast, writes as follows in regard to the manufacture of linen in Ireland:

The methods pursued are the same as in the mills of the Continent. The excellence of Irish linens is due to the skillful training of the workmen, the intelligent and progressive management, and the care exercised at every step of the process from the time the scutched flax is taken in hand by the spinners until the finished product is stored in the warehouse.

In the city of Belfast—excluding all establishments elsewhere in Ulster—there are 20 flax-spinning mills, employing about 20,000 persons of both sexes; 31 weaving mills (here called "power-loom factories") employing about 14,000 persons and about 110 working warehouses, with about 5,000 employees—making a total of 39,000 persons directly employed in the production of linen goods. It is estimated that an equal number find employment in cognate industries, such as the preparation of the manufactured goods for the market, the manufacture of chemicals for bleaching, the making of cartons and other coverings for certain classes of goods, and in various minor industries depending on the linen trade. This gives something like 78,000 persons who find employment in Belfast in the linen and allied industries. From this it is a reasonable estimate that from 120,000 to 130,000 persons are dependent, directly or indirectly, upon the linen industry for support, out of a total population of 360,000.

Nearly all the Ulster linen firms have offices or selling agencies in Belfast. In all Ireland there are 49 spinning firms, some with several mills each, and 16 of them having weaving mills also; and 85 firms having weaving mills alone. In 1906 the total number of spindles in all Ireland was 869,146; total number of power looms, 34,723. Besides these, the hand looms still remaining in damask weaving must not be forgotten.

FLAX SUPPLY—LINEN EXPORTS.

The linen mills require a much larger quantity of flax than the total amount raised in Ireland. Scutched flax—which is the fiber alone, with the woody portions of the stalk, and other useless portions, removed—is the raw material for the spinners. The farmer who raises the flax pulls it, rets it, takes it to the nearest scutching mill and has it scutched, and then sells it to the buyers for the mills. In 1906, the total production of Ireland was 11,812 tons (of 2,240 pounds each) of scutched flax. The net imports required by the mills were 34,056 tons, of which more than half came from Russia, and the remainder from Belgium, Holland, and small amounts from southeastern Europe. Large quantities of foreign-spun linen yarn are also imported by the weaving mills, but these are counterbalanced by the exports of Irish-spun yarn.

It is impossible to get figures as to the total output of linens from Belfast alone. The best that can be done is to give the official figures of the exports of linen goods from all Ireland to Great Britain and all other countries, from the report for 1905, issued by the Department of Agriculture and Technical Instruction for Ireland. The quantities of linen fabrics are given in hundredweights of 112 pounds each:

	Exports.	Estimated value.
Linen yarn .... pounds	18,699,803	$5,782,453
Linen goods .... hundredweights	1,018,706	37,181,496
Total estimated value		42,963,949

There are no statistics showing the destination of the linens manufactured in Ireland and exported, from the fact that much of the product of Irish mills is bought by firms in England, and by them either sold to the British retail trade or exported to other countries. But of the total exports of linens from the United Kingdom the United States takes about half. The quantity and value of linen piece goods exported from the United Kingdom and the share purchased by the United States for the past three calendar years have been as follows:

Linen piece goods.	1905.		1906.		1907.	
	Yards.	*Value.*	*Yards.*	*Value.*	*Yards.*	*Value.*
Total to all countries	183,445,900	$23,563,000	190,957,700	$25,925,627	185,011,000	$26,895,014
United States	103,069,800	12,335,848	110,987,700	13,985,276	107,194,600	14,970,051

COTTAGE AND FACTORY WORK.

As a rule, linen goods are woven "in the gray"—that is, before bleaching. They are then sent to the bleaching establishments, which are necessarily in the country, away from the smoke and dust of the cities, which would discolor the linen when on the bleaching green. The fabrics are submitted to the action of chemicals, and then spread on the grass, where, under the combined influences of the chemicals, frequent moistening, sun and air, the gray color is changed to the snowy whiteness of the goods as exhibited in the stores. The bleaching greens, with their long webs of linen spread out, many hundreds of yards at one time, are a source of unfailing interest to tourists in Ulster. The bleacheries also give the final finish to the linens through the processes of beetling and laundrying.

There are a number of large linen houses in Belfast which do not operate mills, but have their goods made to order, or else purchase staple lines of linens in bulk from the manufacturers to supply their trade. Another branch is the embroidered linen trade. The pattern is drawn on linen cloth, and the pieces given out to women and girls to embroider. Hemstitched handkerchiefs, etc., are also dealt with in this way. The local grocer or other tradesman in the small villages, often many miles away, acts as agent to place the work with the cottage women in his locality; receives the work, pays for the labor, and returns the finished articles to the house. Very often these articles are returned, badly soiled, and with a strong oder of peat smoke, but the laundrying removes all this.

The law does not allow the employment of children under 14 years of age, but the linen mills employ large numbers of boys and girls over 14, at from $1 to $2 per week. The hours of labor in the linen industry (and in all other manufacturing enterprises in Belfast) are from 6 a. m. to 6 p. m., with an hour off from 8 to 9, when the workers go home to breakfast, and from 1 to 2 to lunch. The law does not permit employees to remain in their workrooms during the breakfast and lunch hours for any purpose whatever; so they must go out of the building for these meals, unless the mill owner provides a dining room entirely apart from the workrooms—which all the large mills do. On Saturday the mills close at noon, thus giving a work week of 54 hours.

SCOTLAND.

A PROSPEROUS INDUSTRY DEPENDENT ON UNITED STATES.

Consul J. N. McCunn, in a report from Dunfermline, says that within the past ten years large extensions and additions have been made to most of the various linen factories and warehouses in that Scotch district so that all are now thoroughly modern and up to date. He further describes the industry:

A Government return for the year 1905 credits Dunfermline with 5,365 power looms. In 1907 there were within the city 6,410 power looms devoted to the manufacture of linen damasks, unions, and cottons, chiefly in the form of tablecloths, napkins, doilies, and towels. Within the consular district, in towns and villages outside of Dunfermline, there are numerous small factories, manufacturing huckabacks, ducks, towels, sheetings, ticks, table damasks, etc. These are mostly in the Kirkcaldy consular agency district attached to this consulate. An approximate estimate places the total number of power looms in the various factories throughout Fifeshire, exclusive of Dunfermline, at 3,766, making the total in the entire consular district 10,176. The greater bulk of the linen and cotton goods manufactured is exported annually to the United States.

Atmospheric conditions are certainly different in Germany, Belgium, France, Austria, and Ireland than in Scotland, and it is questionable if any two of those countries have exactly the same climate or quality of water; yet they are all successful linen producing countries. Germany, Belgium, France, and Austria also export linen damasks to all parts of Britain. While on this subject I recall that I have in my desk a table napkin of medium grade left at this office several years ago by a New York linen importer, who informed me that it was designed, bleached, and woven in the United States, but that owing to the tariff on the raw material and the difference in wages of skilled labor America could not manufacture that class of goods and market the same at a profit in competition with foreign made goods subject to a high tariff in the United States.

There is a small export business to Canada, Australia, India, New Zealand and the Continent, but without the United States market, even with its high import tariff, the Dunfermline industry would dwindle into comparative insignificance. The following statistics show the declared value of linens, cottons, and unions exported from the district (including Kirkcaldy agency) to the United States during the years ended December 31, 1904, 1905, and 1906.

	1904.	1905.	1906.
Linens	$1,559,057	$1,721,760	$2,145,295
Cottons	128,180	147,446	153,247
Unions and jute	9,649	17,311	13,824
	1,696,886	1,886,517	2,312,366

A large quantity of Dunfermline made goods are passed through other consulates, of which there are no statistics available here.

There are 4 bleacheries in the city, supported by the various factories, where yarns and cloths are bleached. Outside of Dunfermline and within the district there are 7 bleaching establishments. The theory that particular climatic conditions and quality of water are essential in the manufacturing of linens is not seriously claimed by bleachers and manufacturers here.

CONCENTRATION OF FACTORIES—LABOR RATES.

The population of Dunfermline at the beginning of the seventeenth century was 1,600. It is now estimated to be 25,000, one-half of which are employed in some capacity in the linen industry, the chief reliance and source of employment of the city.

In 1820 there were 49 manufacturers in Dunfermline, whose looms were operated by weavers in every part of the town and adjacent villages. Since that period the business has become more and more concentrated, till it is now confined to 11 plants, the total output of which is upward of a hundred times greater.

In 1700, working by the piece, Dunfermline weavers earned about £30 ($150) per annum. In 1836 they earned on an average 18s ($4.38) per week, and in 1842 during the great strike not over 16s ($2.43) to 12s ($2.92) per week, with full work.

The present average scale of wages paid per week of fifty-five hours to the various classes of employees in a Dunfermline linen factory is given in the following table:

Female.		Male.	
Winders	$4.56	Card-room hands	$4.38–$7.79
Weavers	2.92–5.36	Lappers	6.33– 8.28
Sweepers	2.92	Joiners	7.79
Drawers	4.38	Mechanics	7.30– 8.27
Warpers	4.38	Mounters	5.84– 7.30
Tyers	4.38	Tenters	7.30– 7.79
Pickers	2.92	Packers	5.36– 5.84
Card-room hands	2.92–4.38		

Weavers, winders, dressers, and warpers working by the piece often earn more than the sums named.

SWISS EMBROIDERY TRADE.

ST. GALL MARKET AFFECTED BY AMERICAN FINANCIAL DISTURBANCE.

Consul-General S. C. McFarland, of St. Gall, under date of December 5, makes the following report concerning the effect of recent changes in American trade on the Swiss embroidery industry:

The recent American financial disturbance might have been presumed, had its occurrence been foreseen, to have produced much more serious local consequences than have as yet resulted. Of the total Swiss embroidery exports of $30,593,474 in 1906, the United States took $14,877,148, Great Britain coming next with $6,279,184, and the balance being distributed throughout the world. During 1907 exportations not only increased, but the United States has taken a greater proportionate share. As the industry not only relies chiefly upon the American market, but with respect to many of its concerns is American in fact, the sudden stoppage of business upon the other side, coupled with fully 33⅓ per cent of cabled cancellations of orders booked and largely in hand, might well have been disastrous. That conditions were somewhat unhealthy did not tend to help the situation.

In 1864 embroidery exports to the United States were $67,550 and in 1897 they had risen to $5,734,029. In 1906 they had jumped to $14,877,148, and for 1907 (December estimated) will amount to over $18,000,000. These figures presume a boom growth, which exactly describes conditions when the American financial crisis upset all plans and threw the market into a state of almost hysterical uncertainty. The increase in October had been $749,853 as compared with October, 1906, the month's total figures being $1,822,560, breaking all records. It had been figured, upon the basis of orders received and in prospect, that November and December increases would show a similar gain over the figures for the corresponding months of last year, and that until June, 1908, at least, nothing was in sight to disturb the phenomenal growth of business so far as the United States was concerned.

A CORRECTION.

The figures given for 1907 (December estimated) need explanation in view of my former reports fixing the probable total at between $19,000,000 and $20,000,000. As a basis for previous figures I took my predecessor's annual declared export return for 1906, figuring therefrom current gains by months. It recently became apparent that our aggregate of monthly totals would not balance with these figures. My predecessor's figures for 1906 were therefore gone over month by month, resulting in the discovery that, instead of a total business of $15,981,168, as he reported, the actual figures should have been $14,879,058, a difference of $1,102,100, which exactly explains my previous miscalculations.

EXCESSIVE MANUFACTURING ACTIVITY.

Old concerns were increasing their plants as rapidly as machinery could be had. New concerns, large and small, financiered by local capitalists and backed by local banks, were springing into existence all through the embroidery district of East Switzerland and the Voral Mountains. Local machinery manufacturers were pushing production to the utmost limit, one concern alone having orders booked in October for 550 machines, and turning them out at the rate of 90 per month; and, the local supply not being equal to the demand, machines were being imported from Saxony in large quantities. Factories, unable to keep pace with orders for embroideries, competed with each other in bidding for "house work"—letting out their orders to small concerns and families operating one or more machines in a fashion peculiar to this district.

Technical papers and expert observers had, entirely apart from any anticipated disturbance such as came so suddenly from the United States, uttered conservative warnings, pointing to the unsatisfactory European markets, especially in Germany, to the impending Presidential election year in the United States, and to strained credits at home, so many of the new enterprises operating almost entirely upon bank credits. Nothing, however, availed to stop the rush until the American crisis, as it is here called, effected a sudden halt. Not a single failure has, however, so far occurred, although it is frankly admitted that many large and otherwise solvent concerns have been in straits for cash, to say nothing of the smaller and newer enterprises.

BUSINESS RECOVERY PROSPECTS.

Bank accommodations ceased, bank rates advanced sharply, no money was to be had for current American shipments, and altogether the situation was discouraging. It has been met philosophically and a much more optimistic feeling prevails now than four weeks ago. A consensus of opinion of leading manufacturers, many of them well conversant with American conditions, agrees in predicting an early partial and an eventual full recovery, based upon the excellent industrial as distinguished from the financial conditions in the United States.

Some canceled orders have, indeed, already been replaced, and it is confidently predicted that a normal and perhaps healthier business will soon follow. The effect upon prices is bound to be severe, and upon miscellaneous and house labor still more drastic. Ultimate effects are, however, purely speculative at this time.

Switzerland, as distinguished, for instance, from Austria and Germany, has no official chambers of commerce; but, similarly to the American method in such things, there are maintained in every trade center unofficial associations of leading business men for cooperative purposes. The St. Gall association—and the fact is perhaps the best illustration of the seriousness of the local situation—on December 4 took the unusual course of publishing the following announcement:

> In its report for 1906, entitled "Commerce and Industry," this committee predicted a set-back to the high point reached by machine embroideries, resulting in a change of white embroidery fashions. This expected set-back came sooner than anticipated—not through a change of fashions, but through a sudden and unexpected financial crisis in the United States. The crisis did not fail to have its effect upon the embroidery market, but it can be safely said that the solidity of the American firms which are chiefly consumers of our goods is beyond the question, and that the demand will continue. America has also just put under roof rich crops of cotton and grain, which she can dispose of at good prices. This presents the question: What shall we do? Nothing, but to keep cool and give the market time to return to its normal condition; to generally curtail production of staples until present stocks are safely placed, and, above all, not to circulate any alarming rumors or reports.

BRADFORD WOOLEN FACTORIES.

PRESENT STATUS AND SUCCESS OF AN OLD ENGLISH INDUSTRY.

Consul Erastus S. Day, of Bradford, writes that the woolen industry of that English city is enjoying a period of great prosperity. Some of the features of this textile trade he describes:

It is difficult to state what it is that gives Bradford its leading position in the production of textiles. There is no doubt that the comparatively soft, damp atmosphere is an important factor in spinning, dyeing, and finishing. A competent writer said a short time back that "there is no English town that enjoys so little sunshine," and this will explain at once that atmospheric conditions which undoubtedly help to soften the wool fiber, all conduce to its manipulation in as perfect a way as possible.

The Bradford corporation knowing the absolute necessity of a plentiful supply of soft, clean water, have spent large sums of money to provide such a supply. In 1854 the corporation took over at a cost of $950,000 the undertaking of the Bradford Waterworks Company, paying the shareholders $200 for their $100 shares, and immediately set about extending and developing the water supply of the city. In 1899, recognizing the heavy demands of manufacturers, the corporation received the sanction of Parliament to inaugurate a new scheme, the construction of 3 storage reservoirs, with an aggregate capacity of 2,596,000,000 gallons, constructing a main conduit 33 miles in length, with 6 miles of branches, in order to further augment the water supply of the city.

Under the able management of the Bradford Dyers' Association—a large and powerful syndicate—the art of dyeing and finishing has been undoubtedly developed.

EMPLOYMENT AND PRODUCTION.

The population in 1901 was 279,767, and to-day in round figures it is about 300,000. In the factory returns for 1901—the latest issued—the number of persons employed in the wool and worsted industry of Bradford is given as 86,266, and the number of factories 1,199. The total persons employed in factories connected with the textile industry is returned at 101,623. The total persons employed solely in the wool and worsted industries are returned as follows:

Classification.	Male.	Female.
Sorting processes	1,702	45
Combing processes	3,186	2,189
Spinning processes	4,079	10,604
Weaving processes	3,082	12,986
Workers in other processes	6,865	1,665
Total	18,914	27,489

The textile industry of Bradford is not confined to the city itself, but includes a radius of 20 miles, comprising the West Riding of Yorkshire, devoted to the manufacture of wool and textiles. The late secretary of the Bradford Chamber of Commerce estimated that—

> the pieces and yarns passing through the hands of Bradford merchants each year are probably worth about £35,000,000 ($170,000,000) to which must be

added the value of the wools, tops, etc., that change hands. The turnover in the Bradford trade is probably not less than £90,000,000 ($438,000,000) per annum.

WAGES AND SKILL OF OPERATIVES.

Wages paid to operatives cover a wide range. Wool combers are paid $3 to $6 per week, according to the class of work done, but a large proportion of those engaged in the Bradford textile industry averages from $5 to $6 per week. In the mills female operatives are very extensively employed—they earn $3 to $4. Bradford, although situated in a basin, has only an average death rate, and its citizens are a hard-working, industrious set of people.

The mill help is generally of the very best, and more than ever the technical side of manufacture is being studied, while anything brought out to aid or develop production is instantly adopted. There is no doubt that the inhabitants of Bradford have inherited from their forebears the natural gift and intuition which is so essential for the successful manufacture of wool.

It is commonly said that Bradford has all its eggs in one basket, and that is true. The city is almost wholly dependent upon wool and textiles for its existence, and when trade is quiet, the entire city instantly feels it.

AMERICAN PURCHASES.

From the London Financial Times the Bureau of Manufactures learns that Bradford's shipments to the United States have more than doubled in the past decade; the amount in 1907 reached $16,499,673, an increase of $954,807 over 1906. The textile export items last year were: Stuff goods, $3,849,640; worsted coatings, $387,417; wool, $4,419,891; cotton goods, $4,544,455. The Times adds:

> Nobody can fail to be struck with the large quantity of cotton cloths made up of dress goods and linings which are being shipped by Bradford to America. Here we have evidence of the ability of Bradford dyers and finishers to handle these cotton linings, and unquestionably this branch of the trade has contributed much to the prosperity of Lancashire's staple industry. Last year was a record in the shipment of cotton cloths from Bradford to the States, the increase over 1906 having been $750,000.

NEW HOUSEHOLD LOOM.

GERMAN INVENTION THAT MAY REVIVE THE HOME WEAVING INDUSTRY.

Consul Thomas H. Norton advises that much interest has been awakened in the textile circles of Chemnitz by a newly invented loom, designed by a weaver in a neighboring German town. Personal examination of the loom convinces him that it combines a number of valuable and practical features. It is a development of the old domestic hand loom, reconstructed as a power loom. Apart from the driving shaft and its accessories, it is built solely of wood. The loom in its construction meets all customary demands in regard to rigidity, convenience, and accuracy. Its advantages are the following:

The movements are quieter, it requires less power, and it can be set up in any room, as the harness board is situated much lower than in the ordinary factory loom. New devices were found necessary to attach the jacquard machine. These were so skillfully adapted as to obviate the use of the heavy lifting box of the power loom. Single thread only being used, the regulation of the jacquard was greatly simplified. The shuttle case, of novel construction, is also built of wood and is exceedingly light. The space required for the new loom is 10¼ feet in length, 7 feet in width, and 7½ feet in height. The motive power required for each loom does not exceed ½ horsepower. The weight is about 4,500 pounds, or 2 tons.

METHODS OF OPERATION AND VALUE TO COTTAGERS.

The beam makes 75 projections per minute and has a productive capacity equal to that of most of the iron looms of current construction. When electrical power is utilized, the total cost, with a beam width of 60 inches, is 1 cent for 10 counts. In the use of the ordinary factory loom the cost averages 1 cent for 4 counts. Although the loom is adapted for the use of single thread only the inventor hopes to introduce later the box change, so that manifold thread can be woven.

The cheapness of this new model is one of its principal features. The maker is able to put it upon the market for $50, which is one-fourth of the cost of a mechanical iron loom, with lifting box and jacquard apparatus for single thread weft.

This invention is of far-reaching importance for the household textile industries of this region. Formerly, especially in the nearby mountain villages, they were widely extended. Nearly every house had its loom or stocking frame or lace-pillow. Now, as in most countries, the work is concentrated in factories.

It is hoped that the new loom on account of its cheapness and the minimum of motive power required will permit to some extent the retention of the practice of household industries. The widespread use of electricity throughout this section of Saxony is a helpful factor in this connection. It is not impossible that in various portions of the United States, where efforts are being made to revive and encourage home industries, the new device might find a welcome reception. [The address of the inventor is filed for reference at the Bureau of Manufactures.]

BRITISH SPINNING PROFITS.

LAST YEAR THE MOST PROFITABLE ONE EVER EXPERIENCED.

Mr. William Tattersall, of Manchester, in his table of cotton spinning profits for the past twelve months, shows that 1907 was the most remunerative year ever experienced in the Lancashire staple industry; 1905 and 1906 were good years, but in the past year most extraordinary profits have been officially acknowledged. The list comprises 65 mills, with a total profit, after paying loan interest, of $4,270,553. The total number of spindles is 6,099,672, which employs 16,000 operatives. The profit for 1907 works out at 33.86 per cent per annum. The profit on the combined share capital and loan capital works out at 24.57 per cent per annum. The average profit per mill was $65,698, against $31,875 in 1906, $37,472 in 1905, and $1,713 in 1904; 1902 and 1903 were years of serious losses.

COTTON MILLS IN CHINA.

REVIEW OF MANUFACTURING OPERATIONS AND FABRIC PRODUCTION.

Consul Wilbur T. Gracey, at Tsingtau, transmits the following regarding the cotton mills in China, being a report by the British commercial attaché at Peking to his Government:

There are now 27 cotton-spinning power mills in China, to which may be added the mill in Hongkong, also engaged in turning out yarn for China market. The mills originally started in Shanghai, which at present boasts of 12, had many obstacles to contend with at the start and for several years after, such as labor difficulties, cotton cornering and cotton watering; losses were sustained, and in several cases capital had to be written down. The years 1903 and 1904 were the worst since 1900, but 1905 and 1906 were good average years; cotton was cheaper, and the mills were kept running night and day. Chinese cotton is whiter than Indian, and the product of the Shanghai mill is superior in color and cleanness to either Japanese or Indian yarn, but being shorter in staple it is not so strong, nor is it so well reeled, owing to the low class of labor employed in this department, and I have been informed by a mill manager that no amount of supervision can obtain what may be considered high-class work. Taking Chinese labor as a whole, however, it may be considered as good as either Japanese or Indian, and when the difference in the quality of the cotton is considered it is relatively as cheap. The number of spindles in these 28 mills is approximately 750,000, and the production per spindle, working day and night, is from 11 ounces to 13 ounces, according to counts, which are 10s, 12s, 14s and 16s. With 12 ounces as the average, these 750,000 spindles are capable of a daily output of 562,500 pounds, and on the assumption that work is carried on 320 days of the year, the annual output would be 180,000,000 pounds of yarn, a quantity equal to more than half the foreign import. What becomes of this yarn? The great bulk of it finds its way into the country round Shanghai, and becomes the warp of Chinese cloth woven on hand looms, which is exported in enormous quantities under the name of nankeens to northern China, but especially Manchuria, principally by junk. The block in Manchuria in 1904–5 reacted on Shanghai, where the stocks at the close of 1906 amounted to 27,666,000 pounds, against 2,665,600 pounds in 1903, 6,873,970 pounds in 1904, and 5,804,433 pounds in 1905.

RAW MATERIAL AND ITS CONVERSION INTO FABRICS.

Were we to assume that all the foreign yarn imported into China, as well as the product of the mills in China and Hongkong, is manufactured into cloth with native-spun weft—which is not the case—the weight of the latter might approximately be estimated at 518,829,600 pounds, or 231,620 tons, and if to this be added the export from China in 1906 of 769,542 piculs (picul=133⅓ pounds), or 45,806 tons, and the large but unknown quantity used for wadding, it is not unlikely that the production of cotton in China would approximate if not exceed the estimate of 300,000 tons mentioned in my report for 1905. There was an import of raw cotton into China in 1906 of 6,047,600 pounds against 12,078,667 pounds in 1905.

The province of Szechuan, which is not well suited by soil for the cultivation of cotton, and produces only a limited quantity, is the greatest consumer of imported yarn. It took 51,555,867 pounds in addition to 36,844,533 pounds of raw cotton from the central provinces. The latter quantity, although mentioned by the commissioner of customs at Ichang in his report, does not appear in the customs returns; it passed through Ichang by junk.

The price of raw cotton in 1906 ranged in December from 16.5 to 18.2 Shanghai taels, according to quality, the best being produced at Tungchow and T'aits'ang, on the north and south banks of the estuary of the Yangtze. Although the great bulk of imported yarn is made into cloth with home-grown cotton, a certain but measureless quantity is manufactured solely from foreign twist. I visited several establishments at Shanghai where British and Japanese yarns were, respectively, being used as warp and weft in the weaving of colored fancy-patterned cloth. The yarn was dyed on the premises, and at the time of my visit natural indigo and synthetic reds were being employed.

In one of these factories there were 80 hand looms of Japanese pattern, and it was interesting to watch the women at the looms. There was no idling to look at the foreign intruder, for they were engaged on piecework at the rate of 7 cash per foot. A woman could turn out 40 Chinese feet of cloth per day of twelve hours, the length of a piece being 50 Chinese feet, with a width of 27 inches, and the Chinese manager told me that on occasions a whole piece might be woven in a day, but that it was an exception. Men were employed to arrange and fix the warps on the looms.

[Great Britain shipped to China $469,677 worth of textile machinery in the calendar year 1907, $501,375 worth in 1906, and $99,198 worth in 1905. As about $1,000,000 worth of textile machinery has been purchased by China during the past two years, later statistics than those of the foregoing report will no doubt show a considerable increase in cotton manufactures in the Empire.—B. of M.]

MEXICAN COTTON FACTORIES.

VARIED OUTPUT AND METHODS OF TAXING THE INDUSTRY.

Consul-General A. L. M. Gottschalk, of Mexico City, reports that one of the most productive and at the same time best developed of the Mexican industries is the manufacture of cotton yarns and cloth, to which he adds:

The very modern equipment of certain factories at Orizaba is of much interest. At Puebla I was shown numberless ginghams and shirtings (made after French patterns for the most part) which compare very favorably with imported articles of the same grade, and generally throughout the Republic cotton textiles of exceedingly fair quality are to be found. The capital employed in the industry is Mexican, Spanish, French, and English.

This industry, like others, is subject to the internal revenue or stamp tax which is applied after a somewhat peculiar system. Upon the publication by the treasury department of the budget for the coming year announcement is made of the amount which will be demanded of each industry as a whole. Each factory in that particular line of industry is then assessed its pro rata share, according to the statistics of its production for the year immediately preceding. Each individual factory is then required to purchase Government revenue stamps to this amount, which stamps are to be attached to its various invoices and bills of sale at the rate of so much per thousand pesos (peso or Mexican dollar=49.8 cents) of invoice value. during the year.

As there is naturally no guaranty that any given factory's total output during the current year will conform to the figures of the year immediately preceding, or that the pro rata share of each factory in the general tax represents truly its actual production, many factories have more revenue stamps on hand than they can use on their outgoing invoices, and these surplusages must be made the subject of claims and adjustments, which are sometimes tedious.

There has recently been made public the apportionment of revenue tax which will be levied upon the various cotton yarn and textile factories throughout the Republic for the half year ending June, 1908. This tax will amount in bulk to 1,280,608 Mexican pesos (approximately $640,304 United States currency). A complete list of these factories, together with the amount assessed upon each, is given herewith [and may be examined or copied at the Bureau of Manufactures].

FIBERS.

CULTIVATION OF COTTON.

BRITISH POSSESSIONS.

RESULT OF EXPERIMENTS IN AFRICA—GENERAL COLONIAL STATISTICS.

The British Cotton Growing Association has recently issued a report of its work in the Gold Coast district of West Africa, from which Consul John L. Griffiths, of Liverpool, has prepared the following summary:

An experimental farm of 200 acres was established in 1904 at Labolabo to induce the natives to grow cotton. The report of the association is devoted largely to a history of the experimental work conducted on this farm. The work consisted of the planting tests of different varieties of American, Egyptian, and native cotton; cross-fertilization experiments, and the growing of catch crops, especially maize, to determine definitely if a crop of corn could be grown on the land before it was time to plant cotton.

Time was required to prepare the farm for cultivation, and only 100 acres were available for tillage in 1904. A crop of 30,000 pounds was gathered from this area, 80 acres having been planted with four varieties of American cotton and the remaining 20 acres with Egyptian mitafifi. The American varieties of cotton showed the best results, the yield being from 600 to 800 pounds per acre, an average which it is claimed is considerably higher than the average yield of the same varieties in the United States of America. The quality of the cotton, however, was not as good as that produced from the same varieties in the United States.

NATIVE VARIETIES MOST PRACTICAL.

It was not until 1905 that the entire acreage was prepared for cultivation. It being the custom among the natives to raise food crops, such as maize, cassava, and yams, etc., in the field with indigenous cotton, corn was planted as a catch crop on 100 acres of the farm, because it could be gathered before the time for cotton planting. The result, however, was not encouraging. Every effort, it is stated, will be made to select the best seed and to properly prepare the ground before planting the cotton, as it is known that the value of the experiment in the Gold Coast colony depends upon the successful cultivation of certain varieties of American rather than of native cotton.

Several of the native cottons produced a yield of 400 pounds to the acre and corresponding in quality to middling American. The three varieties which it is stated produced the best results were Volta River, Kidney, and Green Seed. While the yield was far below that of the American varieties of cotton, it was found that the native varieties did not require the same degree of care, and that they were the most serviceable for the natives to grow until they have more experience in the cultivation of the American cotton. The experiments with the Egyptian cotton were so disappointing that the association has concluded that the climate of the colony is not suitable to the growing of this cotton. While the experiments thus far made in cross-fertilization have not been altogether satisfactory, it is hoped that a plant will be produced in time which will combine the hardihood of the native with the best qualities of the American varieties.

TOTAL COLONIAL PRODUCTION.

The following table prepared by the British Board of Trade shows the acreage of land under cotton cultivation, together with the amount of cotton produced in 1905 and 1906 in the British colonies, possessions, and protectorates:

Colonies, possessions, and protectorates.	1905.		1906.	
	Area.	Production.	Area.	Production.
	Acres.	*Pounds.*	*Acres.*	*Pounds.*
British India[a] (see note)	[b]21,072,000	[b]1,870,400,000	22,344,000	1,963,200,000
Ceylon	([c])	[d]154,890	296	[d]267,126
Queensland	171	118,008	138	77,381
Fiji	10		18	
Natal	157	([c])	212	19,865
Nyasaland (British Central Africa) Protectorate	10,262	[e]2,377,760	7,107	[e]1,279,061
Uganda Protectorate[a]	([c])	[d]96,098	([c])	[f]391,244
British East Africa Protectorate[a]	([c])	[d]99,456	[f]400	[d]80,000
Protectorate of northern Nigeria	([c])	[d]123,548		[d]356,167
Protectorate of southern Nigeria	([c])	[d]96,306	([c])	[d]2,695,923
Colony of southern Nigeria (Lagos)	([c])	[d][b]1,278,569		
Gold Coast	2,000	[d]29,124	([c])	[d]92,886
Sierra Leone	([c])	[d]68,808	([c])	[d]87,805
Gambia	([c])	[d]2,572	([c])	[d]129
Bahamas	([c])	[d]6,676	([c])	[d]13,105
Jamaica[a]	([c])	[d]88,133	188	[d]19,080
St. Lucia	([c])	[d]1,610	([c])	[d]800
St. Vincent[a]	([c])	[d][b]138,150	([c])	[d]263,036
Barbados	2,000	344,232	[f]5,000	[d]483,473
Grenada	([c])	[d]212,722	([c])	[d]311,298
Leeward Islands	4,640	[d]392,917	6,050	[d]471,238
Trinidad and Tobago[a]	([c])	[d]14,951	([c])	[d]11,077
British Guiana[a]	17	[d]1,121	10	[d]308
Malta[a]	668	162,448	670	166,534
Cyprus[a]	([c])	782,712	([c])	1,606,506

[a] For the twelve months ended March 31 of the years following those stated.
[b] Revised figures.
[c] Can not be stated.
[d] Domestic exports, no figures for production being available.
[e] Unginned cotton.
[f] Approximate only.

NOTE.—It is stated in the original returns that the figures given for India are approximate only, and that the estimates of production for 1905 were very defective, the figures given being generally too low. The crop for that year was also unfavorably affected by the weather and the ravages of insect pests. Measures have been taken to obtain more reliable results.

TESTS OF NEW VARIETIES IN BRITISH INDIA.

Consul-General William H. Michael, of Calcutta, writes as follows in regard to experimental efforts in India with foreign varieties of cotton and as to crop conditions for the present season:

Scientific effort is being made in the United Provinces for the improvement of cotton. Selected and acclimatized seed from America has been distributed by the government, and the results have proved very encouraging. The seed distributed from the agricultural stations amounted to 3,500 pounds, chiefly in Upper and Middle Doab of the Provinces, and the cotton produced from this selected seed is selling for five annas (10 cents) per pound against three annas (6 cents) for the ordinary local cotton. A sample of 10 bales of cotton from selected seed have been sent to the department spinning mill for test on a large scale. The result of this test is looked forward to with interest by the government experts who are trying to improve Indian cotton.

Experiments in tree cottons at Lyallpur, Patiala, Delhi, and Amballa, in the Punjab, conducted officially and privately, have so far not given much promise of success. The Spence variety has done best at Lyallpur, and it is also being tried at Delhi and Amballa, but other tree cottons have not prospered, and it is perhaps not improbable that the species is not quite suited to the climate, etc.

According to the latest official intelligence Caravonica cottons, which have been tried for some time now in the Mysore Province, have shown no remarkable results either in growth or fertility. Like other Peruvian and sea island cottons the Caravonica cottons are said to be only productive in India under special cultivation, and in the best land, and in Mysore Province the authorities find themselves unable to spare the best land for cotton, other commercial and industrial products being of more importance.

RESULTS OF EXPERIMENTS WITH THE LONG AND SHORT STAPLE.

The government report on the crop of long and short staple cotton for 1907 furnishes the following figures with regard to the cultivation of the two crops in the Central Provinces of India:

Variety.	Sole crop.	Grown with Arhar.*
	Acres.	*Acres.*
Long staple	14,303	33,708
Short staple	436,509	1,042,380
Total	450,812	1,076,088

* *Cajahus Indicus,* commonly called "pigeon pea," a plant grown in India for food.—Note supplied by the Department of Agriculture to the Bureau of Manufactures.

The differentiation is said to bring out the fact that in the Central Provinces long-staple cotton is cultivated as a sole crop in the same proportion (.0317 of the total acreage under cotton) in which it is cultivated as a mixture with arhar (.0313), though the actual area under the latter is more than double that not sown as a mixed crop. The total area under pure cotton in the Central Provinces in the year preceding was 552,951 acres, so that this year there has been a decrease of 18 per cent, while in Berar, where the total area under cotton in 1906–7 was 3,294,141 acres, there was an increase of 102,185 acres compared with the preceding year. The proportion of increase in Berar is said to be the same as the decrease under Indian millet, viz: 3 per cent, and it bears witness in that division to the continued preference for cotton at the expense of millet in spite of the growing scarcity of millet stalk for use as fodder for agricultural cattle.

REDUCED CROP OF BURMA.

The number of acres under cotton in Burma is now officially reported to be 183,267, which is 3,866 less than the acreage of last year and 2,774 acres less than the second forecast. Crop prospects are poor in two of the largest producing districts—Sagaing and Myingyan—which are expecting outturns considerably smaller than in 1906–7. The total estimated yield of clean cotton is 28,688 bales (400 pounds each), which is 6,898 bales less than in 1906–7 and more than 18 per cent below the average outturn of the past five years.

CHINA.

METHODS OF CULTURE IN THE NORTHERN PROVINCES.

Vice-Consul Ernest Vollmer, writing from Tsingtau, says that Shantung and the whole of north China proper grows much more cotton than is generally supposed, the crop processes being thus described:

The special cotton district of Shantung is north of Kaumi, in what is known as the Hauli region. Many of the old maps show a large shallow lake here, and it is in the bed of this former body of water that hundreds of acres of cotton are now found. By a careful system of drainage, covering many decades, the natives have divided the entire lake off into a series of ditches and high fields, made of the earth removed from the ditches. By a system of locks and gates they are also able to so regulate the moisture that a crop is almost certain regardless of atmospheric conditions. The seed is planted in very carefully tilled fields late in May, a kilo (2⅕ pounds) of seed and some 600 kilos of fertilizer being used for say 200 square meters (1 square meter=1.196 square yards) of land. After the plants are well up they are thinned out and topped. This causes the bushes to remain low and spread out. When they are being topped another supply of rich bean-meal fertilizer is added, and the fields are very carefully cultivated until after the plants have finished blooming.

Early in October the crop begins to be ready for harvesting, the last cotton being picked about five weeks later. In order to separate the fiber and seeds a device consisting of 2 foot-power wheels is used. These wheels are arranged like a clothes wringer and small teeth pull the fiber through, while the seed drops to the ground, being too large to pass between the rollers. The surplus seed is then ground to an oil, which the natives can not refine or clarify, however, hence it is used only for crude lamps. The stalks of the old plants naturally are used for fuel, as is all waste vegetable matter in China. The cotton, after passing through the native ginning process, is by no means the fluffy batting the native desires, hence they have invented an affair which closely resembles a large violin bow. With the thong of this bow they beat the cotton until it is all separated and soft, being then ready for market.

MARKET RETURNS—AMERICAN SEED EXPERIMENTS.

Prices for both the cotton and the seed vary, but an average price may be said to be 20 to 30 small cash for a pound (which is heavier than the American pound) of seed and 500 cash, or say about 10 to 12½ cents, for the cotton. The staple of this native product is very coarse and short, and it is hence of little value for weaving, being used almost exclusively as wadding for the heavy winter garments and for comforters. Foreign imported cotton is used in manufacturing.

Experiments on a small scale with a few plants have recently been made within the confines of Tsingtau. Of some 500 bushes only a few dozen produced, the cold weather apparently setting in before the crop had matured. All of the plants were healthy, grew well, and all had bolls. As the cold set in rather early last fall, more extensive tests are to be made this year. As far as known this lot did not suffer from any disease or insect.

American seed is stated to have been used in experiments covering several years along the line of the Shantung Railway, mainly near Ching Chou-fu. The results were not satisfactory. The seed was planted early, grew very well, and the stalks were always loaded down with a heavy crop, which, however, was annually checked by the first cold weather. The cotton of the American plant seemingly takes longer to mature than that of the native cotton plants, and the season is too short to allow the crop from the imported seed time to mature. On the whole, it may be assumed that considering the poor staple and crude methods of ginning and cleaning the cotton in vogue here there is at present little possibility of the industry extending far beyond its present bounds. The crop is, nevertheless, a profitable one for the Chinese farmer, and as the cotton-wadded clothes are not likely to be superseded for a long time by any other form of dress, the short staple cotton fills a demand, and will hence always be found in north China.

UNITED STATES.

CROP RETURNS AND COMPARATIVE EXPORTATIONS.

The number of bales of cotton ginned in the United States in 1907 was 9,955,427, against 11,741,039 in 1906 and 9,725,426 in 1905.

The exports of raw cotton from the United States for the past three yearly seasons ending August 31 have been as follows:

	1905.		1906.		1907.	
	Value.	Cents per pound.	Value.	Cents per pound.	Value.	Cents per pound.
Sea-island	$8,223,271	20.3	$8,240,505	20.5	$8,061,606	27.31
Other cotton	399,896,721	8.9	381,918,542	11	470,006,654	10.7

The exports of American cotton for the four months ending December 31, 1907, amounted to 3,905,560 bales, valued at $230,488,311, against 4,275,004 bales, valued at $232,680,256 for the same period of 1906.

SOCIETY ISLANDS.

INCREASED INTEREST BEING TAKEN IN SEA ISLAND VARIETY.

Consul Julius D. Dreher, of Tahiti, calls attention to the growing of Sea Island cotton in the Society Islands, stating that increased interest has been created by several long articles in the Official Journal and by the offer of the Caisse Agricole, a bank having close relations with the colonial government, to guarantee a minimum price of 7 cents in the seed for all Sea Island cotton produced in the colony. In 1905 Sea Island cotton to the amount of 8⅓ metric tons (metric ton= 2,204.6 pounds) was exported from these islands, and in 1906 $23\frac{8}{10}$ metric tons. However, if all the available land for growing this valuable product were under cultivation, the quantity produced would have little or no effect on the world market price.

JAVA KAPOK GROWING.

CULTURAL METHODS AND CROP RESULTS IN EAST INDIA ISLAND.

Having received numerous inquiries in relation to the cultivation of kapok in Java, Consul B. S. Rairden, of Batavia, makes the following report from information received:

Kapok is an article raised extensively in Java, and the article produced in this island is considered the standard. The kapok tree, which grows to a height of 25 to 30 feet, is cultivated at sea level or at as great an elevation as 2,500 feet, but the best material is secured from trees grown at an altitude of not more than 600 feet above the sea. On the high lands the tree bears less fruit and yields later in the year; often before the fruit is ripe the rainy season is on and the water, penetrating the fruit before it is properly ripe, damages the fiber, so that the kapok is inferior to that cultivated at a lower altitude.

Rich, sandy clay is considered the best soil for cultivation of kapok, and it appears to thrive better when planted near the sea on a fair elevation. The ordinary method of propagating the tree is by setting out cuttings from older trees. It is also propagated from seeds. The trees propagated from cuttings do not have so vigorous a growth as those propagated from seed, neither are they so long lived.

The trees grown from cuttings bear fruit in three years, being then in full bearing and ready for harvesting, while those propagated from seed begin to bear fruit after two years. Of course much depends on the soil and climate.

TIME AND METHODS OF PLANTING.

Seed for propagation should be sown during December or January (the middle of the rainy season) and covered with a thin layer of soil. The seeds are sown in rows about 12 inches apart. When the young plants are about 6 or 8 inches high, the soil must be well cleared from them, in order that they may be well exposed to the sun, as kapok plants require much sun and must not be kept in the shade. At this stage the plants must be thinned out so that they are at least 12 inches apart.

All that is required until the plants are 8 months old is to keep them well watered and weeded. Then they can be set out, and should be planted about 135 to the acre if intended solely for kapok growing. Up to the present time very few kapok plantations exist, and the trees are generally cultivated together with other crops. This will not harm the kapok tree as long as the roots of the tree are free from those of other growths. In planting, the young trees are stripped of all their leaves and cut off to a length of about 2 feet. This is necessary to prevent the plant from withering at the top.

PLANTING VINES—PRODUCTION PERIOD—HARVESTING.

It is often the custom to plant pepper and serih vines near kapok trees and allow the vines to grow upon them. This is a great mistake, for nothing should be planted near the trees, which require all the nourishment the soil can give. After the kapok tree is some 4 years old, however, such vines may be allowed to grow upon them without harm.

The kapok tree begins to yield in two to three years, and at its fifth year is bearing its best. At this period an acre of 135 trees should produce about 420 pounds of clean kapok annually. Some well-matured trees have yielded as much as 125 pounds of clean fiber a year, but this is rare.

The tree blossoms in April or May and the fruit ripens generally the latter part of October or in November, when it takes on a yellowish-brown color and breaks open. Then the fruit must be gathered, and before the rains set in, otherwise the water would damage the fiber. In some cases the fruit is gathered before it breaks open and it is opened and the fiber taken out as soon as possible, otherwise if left too long in the fruit the fiber becomes yellow and loses its glossiness. The seeds are separated from the fiber by beating with sticks so that the seeds fall out. This sometimes causes the seeds to explode and the entire lot of kapok is destroyed by fire. To clean the kapok properly it is laid on a large bamboo grating and the beating process goes on until all the seeds fall through the grating and the clean fiber remains.

MODERN MACHINE NEEDED—YIELD AND PRICES.

A more modern way of cleaning the kapok after it has been taken from the fruit is by a hand machine consisting of a horizontal cylinder, the inside of which is lined with rows of pegs placed vertically on the sides of the cylinder. An axle, also fitted with pegs, turns on the inside and thrashes the kapok inside the cylinder, which is put in through a funnel. The cleaned fiber drops out through an aperture and the seeds drop through a perforated iron at the bottom of the cylinder. This is also a very slow cleaning method and good modern machines for this work are much needed in Java.

It is stated that 450 of the fruit will give about 1.5 pounds of fiber and 2.7 pounds of the seeds. When preparing for shipment, it is packed in bales covered with bagging or mats and pressed either by hand or hydraulic force into bales weighing about 80 pounds and in sizes of about 21 by 30 by 39 inches, although the weights and sizes vary.

Great care is necessary to prevent the bales from being pressed too hard, for should this be done the fiber would lose much of its elasticity and value.

Oil is manufactured from the seeds and exported mostly to the Straits Settlements. The residue makes a good fertilizer, containing about 5 per cent nitrogen.

The present price for uncleaned kapok fiber is about 2½ cents per pound, and for cleaned 10 cents per pound.

MEXICAN ZAPUPE.

NEW SOURCE FOR MANUFACTURERS TO OBTAIN RAW FIBER.

Consul A. J. Lespinasse, of Tuxpam, forwards a clipping from a newspaper published in Mexico City, from which he says it would appear that the henequen growers have combined to control the henequen market and dictate terms to consumers of the sisal fiber in the United States. The consul comments further:

The fiber of the zapupe plant is superior to and possesses many advantages over the henequen of Yucatan, as previously described in a report from this consulate.

An extensive area of the zapupe plant is now under cultivation in this section of the State of Veracruz and at least 75 per cent of the plants now growing will commence to yield fiber during the early part of 1908. It might interest manufacturers in the United States to learn that they may obtain at an early date supplies of fiber from other sources in Mexico besides the State of Yucatan. American manufacturers should lose no time in entering into negotiations with zapupe growers here, as the Yucatan hemp planters have already sent a commission here to report on the zapupe plant and will no doubt endeavor to monopolize the zapupe product as soon as it threatens to seriously compete with henequen. [The most important zapupe planters in the Tuxpam region are named by the consul, and the list may be obtained from the Bureau of Manufactures.]

RAMIE IN CHINA.

INCREASED TRADE SHOWN LAST YEAR—MARKET PRICES.

Vice-Consul-General W. B. Hull, writing from Hankow, states that, besides the large amount of ramie used in the Wuchang grass-cloth mills, a considerable amount is exported each year, the trade apparently increasing. During 1906 the customs returns show 2,916,260 pounds imported into this port, having a value of $174,976. Of this amount 963,730 pounds were exported to foreign and Chinese ports, the value being $53,378.

The price of ramie in Hankow at present is from $6 to $7.15 per 133 pounds for the best quality, known as Wuchang or Poochi white china grass, while a second quality known as Sinshan or Chayu sells at $5.50 for 133 pounds.

LEATHER GOODS.

FOOTWEAR.

MEXICO.

COST AND MANNER OF PRODUCTION—DEMAND FOR AMERICAN PRODUCTS.

Special Agent Arthur B. Butman furnishes the following information concerning the shoe and leather trade of Mexico:

The boot and shoe industry is in its infancy in Mexico. There are not more than ten or twelve modernly equipped factories in the Republic, three of which are situated in Mexico City, one in Tacubaya, a suburb of the capital, and the remainder in Puebla, the capital of the State of the same name, which adjoins the Federal District; Guadalajara, the capital of the Pacific coast State of Jalisco; Mazatlan, an important Pacific coast city of Sinaloa; Parral, in the State of Chihuahua, and Saltillo, in the adjoining State of Coahuila. Most of these factories, judged from the standpoint of the United States, would be considered small, and their output as ranking accordingly. The output of the largest factory is about 2,000 pairs a day, of the second largest 1,000 pairs a day, while the remainder turn out from 50 to 450 pairs a day each. Numerous small shops are found in all localities, where a few workmen are employed in manufacturing shoes to order and by hand.

GRADES OF FOOTWEAR MANUFACTURED—WAGES OF OPERATIVES.

The best grades of Goodyear work, as manufactured by one firm in Mexico City who make this class of shoes exclusively, retail from $4 to $5.50 a pair, United States currency, which is used throughout this report. The firm is composed of Americans, well trained in the shoe industry of the United States, and their factory is equipped throughout with American machinery; all foremen employed in the various departments are Americans, the lasts used are made in the United States, and the upper leathers procured therefrom. The output of this factory probably enters more keenly into competition with goods of United States manufacture than that of any other domestic shoe factory.

The following statement shows the average weekly wages of operatives in Mexican shoe factories, ten hours constituting a day's work:

Description of labor.	Wages.	Description of labor.	Wages.
Rough stuff cutting	$3.75	Channel laying	$4.00
Channeling Goodyear soles	3.75	Channel closing and leveling soles	3.75
Cutting or clicking	6.00	Nailing heel seats	3.75
Upper fitting and stitching....each	.11	Stitch separating by machine	3.75
Counter skiving	2.50	Heel attaching	6.00
Box toes skiving	2.50	Top-piece slugging by machine	4.50
Pulling over by hand ....each	.035	Heel trimming	4.50
Lasting on Consolidated	6.00	Heel breasting	4.50
Welt sewing on Goodyear machine	7.50	Edge trimming	7.50
Inseam trimming	4.50	Heel scouting	5.00
Welt hammering	3.75	Inking and edge setting	6.00
Trimming and fixing shank pieces	4.50	Inking and finishing heels and seat wheeling; sole buffing; shank buffing by Naumkeag; sole and shank finishing, including laying colors; cleaning up, and taking out last	$3.00- 6.00
Sole laying, Goodyear	4.50		
Rounding and channeling on last	7.50		
Channel opening on last	2.50		
Sole stitching, Goodyear Rapid	6.00		

McKay, Standard screw, and pegged work of Mexican manufacture retail for proportionately less than the Goodyear. The average lower-grade shoe of Mexican manufacture is in appearance naturally somewhat inferior to a like product of United States origin, owing to the lack of skilled workmen.

Findings—that is, counters, box toes, welting, etc.—are made, as required for consumption by the individual manufacturer, in the same factory with the finished product.

LEATHER EXPORTS FROM THE UNITED STATES—DUTY ON LEATHER.

American upper leathers are employed in Mexican shoe industries, together with those of native tanning. The values of exports of upper and other leathers from the United States to Mexico for the fiscal years ended June 30, 1904–1907, were as follows:

Description.	1904.	1905.	1906.	1907.
Sole leather	$19,097	$3,049	$789	$983
Kid, glazed	3,987	1,679	3,270	22,248
Patent or enameled	1,812	1,602	630	299
Splits, buff, grain, and all other upper	26,936	36,807	39,171	30,986
All other leather	29,827	36,989	45,592	42,391
Total	81,659	80,126	89,452	96,907

Harness and saddles were exported from the United States to Mexico to the value of $44,798, $78,664, $81,427, and $95,422, respectively, during the same years. A certain amount of high-grade saddlery and harness is annually imported from England and France.

It will be noted that very little American sole leather is used, this stock being largely Mexican, as the cost of production in Mexico is much less than in the United States.

The duty on leather and leather goods entering Mexico is as follows per legal kilo (2.2046 pounds): Soft tanned skins, 79.68 cents; sole leather, 49.8 cents; harness, etc., 99.6 cents; traveling bags and trunks, 99.6 cents; belting for machinery, 27.4 cents; gloves and similar articles, 74.7 cents to $2.99. Shoes, according to the dimensions of the sole, per pair, 34.9 cents to 87.15 cents.

MARKET FOR AMERICAN SHOES.

The exports of boots and shoes from the United States to Mexico for the fiscal years 1904–1907 were as follows:

Year.	Pairs.	Value.	Year.	Pairs.	Value.
1904	496,188	$786,502	1906	848,306	$1,529,264
1905	683,840	1,116,598	1907	810,859	1,560,821

These statistics indicate the splendid advance made by the United States in its boot and shoe trade with Mexico. I find that practically every large shoe center in the United States is represented here by the products of one or more manufacturers and in some instances by several. The many established agencies of American shoe firms in Mexico City carry large and varied stocks of the output of their individual firms, which are well advertised and attractively exhibited. Neat illustrated booklets, printed in the Spanish language, are furnished, and the advertising columns of the newspapers are employed, while the window displays of these stores compare very favorably with those of like retailers in the United States.

Footwear for this trade is for the most part made on the American last, possibly a little modified to suit the Mexican foot. I find also the products of at least one American firm made on lasts typically Spanish in shape. The native Mexican purchasers, however, are gradually taking more and more kindly to the typical American-shaped shoe.

American shoes usually retail in Mexico City for $5 to $6 a pair, both men's and women's. An extra high shoe for miner's wear sells for $6.75; men's white canvas bals for $4.25; Oxfords of the same material, $3.75; men's dancing pumps for $5.75; slippers, "Opera" for $3.25, and "Romeo" for $4.25. Women's white canvas Oxfords and slippers are sold at $3.75.

The Mexican trade prefers, for both sexes, a shoe with light sole, and, in the case of ladies' footwear, the Cuban and Louis XV heels. In styles, the bluchers, bals, button, and Oxfords find favor, with a possible preference for the high shoe. For leathers, vici, patent vici, box calf, patent colt, gun metal, and various russets are principally employed. To some extent, especially among Mexican ladies of the higher classes, shoes of fancy colored leathers, with narrow last and very high heel, are worn. These latter styles are mostly of French and Spanish manufacture, made by hand, and high priced.

I am informed that a Canadian company is planning to open a large retail store in Mexico City, with branches in many of the smaller towns of the Republic, for the exclusive sale of Canadian manufactured shoes.

NATIVE SANDALS, OR GUARACHES.

While there has been a marked and rapid change in the use of footwear in all portions of Mexico during the past few years, it can not be stated that the modern shoe is yet generally worn by the great masses of the people, the peons. These, for the most part, either go barefooted or wear the "guarachas," or native sandal. The guaraches are sold at 25 to 45 cents, ready to wear. In many instances, especially in remote districts, the peon or Indian in need of a new sandal supplies his want without recourse to the manufactured article in the following primitive fashion: Entering the nearest shop, it scarcely matters of what order, since the large demands of the trade in question insure a supply of leather in almost every store, the Indian purchases, according to his purse, a half or quarter side of leather, lays the leather on the floor, steps firmly upon it, and with a sharp stone or bit of iron outlines his foot; then, with the ever-present machete, he dexterously follows the outline marked. Again placing his foot on the now cut-out sandal, he marks between the big toe and the next member, where the thong shall come, asks for a piece of rope or leather thong, passes the same through the hole, and winds about the ankle, whereupon he steps forth full shod.

COLOMBIA.

GROWTH OF A CARTAGENA FACTORY—FOREIGN FOOTWEAR AND LEATHER.

Consul Isaac A. Manning recently visited the shoe factory at Cartagena with a view to understanding the footwear trade of that Colombian port. He writes:

This is an up-to-date plant, equipped with American machinery, and supplied with American-made patterns, although most of the lasts and patterns were in French shapes. They use American stock for all uppers, but the cloth for lining is the product of the Cartagena cotton factory and the sole stock is from the output of their own tannery at this place. At this factory are manufactured various grades of shoes for men, women, and children in welts, turns, and McKays, and the local demand is almost entirely supplied from the output.

The factory employs about 30 hands, and has been putting out 100 pairs per day. There is now being installed a number of new American machines, including welt and turn machines, stitcher, slugger, stitch separator, soling machine, channel machine, and a rough rounder, all from a manufacturing establishment of Lynn, Mass., and declared to be the latest machines of their class. The factory employs an 8 horsepower kerosene engine (automatic), but will soon increase its power. When the new machinery is installed, the capacity will be increased to 400 pairs per day; and while it will be some time before it will likely be run to its full capacity, the output will be very materially increased immediately, in order to meet the growing demand.

Men work by "task," and earn from 80 cents to $1.50 American gold per day. There are 6 apprentices and they earn 50 cents per day, and in the pattern room there are a few women employed.

CHARACTER OF OUTPUT—PROSPECT FOR AMERICAN TRADE.

The factory was established three years ago and began with a capacity of 20 pairs daily. Their market is principally Cartagena, but they also ship to the towns on the Sinu and Atrato rivers. The product is not up to the finish of the American shoes of the same grade, yet it makes a fairly good appearance on shelf and show case. The wearing qualities are said to be excellent, and now, with new machines, they expect to make a shoe that will compete favorably with any other product of similar characteristics. Their ordinary McKay men's black leather shoe wholesales from the factory at $2.30 per pair, and retails here at $2.75. The Colombian Government has placed a protective duty on shoes which favors this factory, the duty being $1.36 per kilo (2.2 pounds), which covers also weight of packing and cases.

Despite these conditions, there should be sale here for some American-made shoes, especially for women and children, as there is a recognized finish, shape, and fit to American-made shoes which no other country has yet been able to equal. The demand would be more largely for low shoes and slippers, which should be well made, with dressy heels and of dressy characteristics. In children's shoes this should also be the guide for any exporter. Children's and misses' shoes with solid heels, and made on straight shapes, usually in blacks, tans, and white canvas, should sell readily here if supplied at the right prices. The trade will require educating, for the people here for a good many decades have been in the habit of getting shoes made to order, and they will have to be weaned from this habit. The local factory has done much to change this custom, and has really opened the way for the establishment of a good shoe store in Cartagena, stocked with various lines.

IMPORTATION OF LEATHER GOODS.

During the eighteen months ending December 31, 1906, the total import of shoes imported through this port was 7,896 kilos, of which 5,776 kilos came from the United States. During the same period 567 kilos of rubber shoes, 420 kilos from France, 113 from the United States, and 34 from Germany, were imported. The United States supplied 503 kilos of shoe trimmings, and England 241 out of a total importation of 793 kilos. The imports of leather during that period were 17,918 kilos, of which the United States supplied 14,296 kilos, but how much of that was for shoe manufacture I can not say; probably the greater part of it. Of patent leathers England supplied 995 kilos, the United States 100 kilos, and Germany 70 kilos. A good deal of this was sent to the interior of the country, and the proportion of local consumption is unknown.

There are a number of shoemakers here who make shoes "to order," but the amount of their output is not great. I would suggest that dealers in shoe findings communicate with the factory [address of which, as well as of shoe jobbers and dealers of Cartagena, are on record at the Bureau of Manufactures].

UNITED KINGDOM.

HOW THE SALE OF AMERICAN SHOES COULD BE ENLARGED IN WALES.

Consul J. H. Johnson, of Swansea, reports that American leather and shoe manufacturers would do well to pay attention to the requirements of southern Wales, concerning which he says:

In Swansea and its surroundings there are about 500,000 people. An attempt was made some years ago to introduce American shoes in this district, and the result indicates that a thoroughly organized and persistent method would turn out successful. There is no tariff duty nor local prejudice against footwear made in America, which is held in high favor owing to elegance of shape and splendid finish.

Home-made goods at equal value and equal prices are naturally first in demand. Considerable quantities are, however, imported to this district from France and Switzerland, as well as from the United States. France and the United States supply what are termed superior shoes for outdoor wear and other countries send fancy goods.

The rougher shoes, such as used by miners, agriculturists, and tinplate workers are manufactured in England and are retailed at such a figure which would make it out of the question for our manufacturers to enter into competition. For instance, coal miners' shoes, which are riveted and hobnailed, are sold here for about $1.40. The same is true of the working shoes for agriculturists and tinplate workers.

LOCAL DEMANDS SHOULD BE STUDIED.

Still, there is in Swansea and district a good opening for a greater sale of American shoes. When the first endeavor was made to introduce "American made" here, it was sought to out-do the home production by selling an article of better style and finish at a low price. American shoes sold here at $2.50 were far superior in appearance to those manufactured and sold locally for $3, and for a time they predominated. However, while the American goods led in shape and finish, they lacked the quality of the home-made, and style was disregarded for endurance. The foregoing also applies to the cheaper grade, and it makes clear that a regular market here must be won not only by superior appearance but by good quality as well.

If an American trade is to be established in the better class goods, or shoes retailing at $4 and upwards, it is essential that the local demands be studied. At present many American firms at considerable expense have established agencies in London and other large centers from which they work the provincial towns.

Local shoe manufacturers in Leicester and Northampton canvass smaller districts unceasingly, studying the peculiar requirements of the respective districts. This is not a difficult task, and I would suggest that our manufacturers avoid middle-men and canvass the various districts. It would be more profitable to appoint an agent in each town than to restrict agencies to the large towns. I found only one store in Swansea retailing American shoes. These had been manufactured in Cincinnati, and were supplied to the local merchant through an agency in England. Although the quality was stated as good and the goods warranted pushing, it is questionable whether the local merchant derived the same advantage as if he were supplied direct. There is no obstacle whatever in the way of American manufacturers doing a good business here if they send special representatives. There are good shipping facilities, including weekly sailings from New York to Swansea.

TANNERIES IN MEXICO.

PRIMITIVE METHODS STILL IN USE—INFERIOR GRADE OF PRODUCTS.

Special Agent Arthur B. Butman furnishes the following description of the present day methods of leather production in Mexico, with added information concerning the exports of hides and skins from the Republic:

Small tanneries exist in most of the cities and towns, although the tanning and leather trade of the Republic is chiefly centered in Mexico City and Leon. It is customary, also, on many haciendas throughout the country to conduct tanning operations to such an extent as to provide from the hides and skins produced on the place all leather needed by the laborers. These domestic enterprises can not be properly regarded as commercial tanneries and do not produce leather suitable for the leather trade. They perpetuate the crude methods which have been handed down from primitive times, and the products are of poor quality and bad odor.

There are in Mexico City about a dozen tanneries, mostly of very limited output, and usually located in and about the patio of the house, the second-story front of which is occupied by the proprietor as a dwelling.

That the product of Mexican tanneries is of a generally inferior character, and unattractive to the foreign buyer, is amply shown by the statistics for the fiscal year 1904, when the total amount of tanned hides exported amounted to only $70,389, while the raw hides and skins exported for the same period were valued at $3,273,960. That is to say, the value of raw hides exported was nearly 43 times greater than the value of the leather exported.

LOCATION OF THE PRINCIPAL TANNING ESTABLISHMENTS.

La Velocitan, situated on the Calzada Santa Crucita, was planned to be the largest tanning establishment in the Republic, having a capacity of 300 cattle hides a day. The present output, however, is only about 50 cattle hides and 30 dozen small skins a day. The process of tannage employed is that known to the trade as the "Fratelli Durio" process, the chrome process being used for goatskins, and quebracho and other imported extracts for heavy hides.

On the Santa Cruz Acatlan is a tannery which has a daily output of 40 or 50 cattle hides a day, and has the reputation of being the best of its kind in Mexico. The tannage is confined to the use of cascalote, and the production is entirely sole leather. The hides tanned by this firm, which has been in the business for twenty-five years, are mostly salted hides from Vera Cruz, which can be selected to certain required grades. For a long time the owners were opposed to the use of machinery, but during the past four years machines have been introduced to a moderate extent. Other tanneries include one with an output of from 50 to 60 dozen a day of goat, sheep, and calf skins, the chrome process being employed; one with an output of 20 hides a day, successfully utilizing "timbe" as a tanning agent, and another in which are tanned 40 hides a day, the same method as used at La Velocitan being employed. Experiments with a rapid tannage process of agitating the tan liquors, under the Brown-Ruff-Vincent patent, are now being carried on in this latter tannery. Two more may be noted, one with an output of 30 cattle hides and 30 dozen goat and sheep skins a day; the other tanning sole leather, the output being 20 hides a day.

Tanneries operated at other cities and towns do not differ essentially in methods or equipment from those of Mexico City, but only in the tanning material employed.

There are 26 tanneries in the city of Leon. They are, as a rule, inferior to those of Mexico City. About two-thirds are absolutely without machinery. The most pretentious tannery is well equipped and uses American machinery, mostly of recent pattern. The building is modern and extensive, the ground covered amounting to some 110,000 square feet. It was established eight years ago with a capital of $50,000, which was later increased to $100,000. The motive power is electricity. The output is about 25 hides of sole leather and 25 dozen sheepskins a day. Quite a line of colored moroccos are produced, besides box calf and enameled colt and pig skins. Cascalote is used in tanning.

PRODUCTS AND PROCESSES OF THE SMALLER TANNERIES.

The output of other Leon tanneries is from 10 to 20 hides of sole leather a day, cascalote and oak bark being used. From 15 to 20 dozen small skins a day are also turned out in two or three instances.

Many other cities and towns throughout Mexico also have small tanneries. I can only refer, however, to some of those of sufficient importance to find an outlet for their goods on the general Mexican market.

Tanners in Morelia employ oak bark for tanning sole leather and "raicilla" for tanning soft leathers. In Puebla all kinds of small skins—sheep, goat, and calf—as well as hides are tanned. Individual tanners average from 15 hides of sole leather and about 15 dozen small skins to 50 hides of sole leather and from 30 to 40 dozen small skins daily.

In Oaxaca all classes of hides are tanned. Oak bark is used, also cascalote, and the so-called "timbres" are tanned with cortez á timbre. The small skins are tanned with sumac. The timbre leather and the colored leather of Oaxaca are famous for shoes and book bindings. No machinery is used. One man will glaze 10 dozen kid skins a day, at a wage of not over $1.25.

The town of Piedad de Savadas, Michoacan, is distinguished for the black goatskins tanned with uña de gato. The tanneries of this place, which are good-sized plants, supply the greater part of the tanned goatskins sold in Mexico. Cuautla, Morelos, and various neighboring towns of this region make a specialty of tanning with guamuchil bark. The leather is used principally for saddles and harness, and is cheaper than that of Oaxaca.

In Jalisco much leather, called "cueros de timbre" or "corambre," is tanned with guamuchil. It is used for saddles and harness, but is inferior to that of Cuautla, Morelos. Throughout the State there are plants making a specialty of tanning pigskins. Cascalote is not used at all in this State, and sole leather tanned with cascalote has no demand here.

In the State of San Luis Potosi there are large quantities of sheepskins tanned. The skins finished in black are called "badana negro" or "chagre." Nearly all sole leather used here is imported from Mexico City.

There are several tanneries at Irapuato, one using the chrome process being regarded as one of the best in Mexico. It is well equipped with machinery and tans goat, sheep, calf, and kid skins. There are also three sole-leather tanneries, practically like those of Leon.

At Mazatlan, on the west coast, is a tannery with a present output of 50 hides a day, which is said to have reached at one time an output of 150 hides a day. This tannery was formerly managed by an American of long experience in the tanning industry, and under his administration gained the reputation of being the most successful tannery of the kind in the Republic.

TANNING MATERIALS AND DISTRICTS WHERE PRODUCED.

From an economic point of view, tanning in Mexico should be a profitable industry, owing to the low cost of the prime materials, but from an industrial standpoint it is many years behind the times. As will be seen by the foregoing specific details, the majority of tanneries in the Republic are comparatively small affairs. In most of them the liming and tanning vats occupy a part of the patio and the chambers adjoining it in the building, the second story of which is used as a dwelling. In many instances there are no special facilities for drying the leather, the hides or skins being hung from the ceilings of the different rooms or from the edges of the balcony surrounding the patio. There are no drainage arrangements, and the workmen pick their way about the crowded quarters amidst pools of filth. There are, however, some exceptions to this general rule.

The great majority of Mexican tanners employ the pods of a species of Cæsalpinia (C. cacolaco), known by the native name of cascalote. It is rich in tannin, and contains less mucilage than dividivi, a closely related material from Central America. Oak bark is extensively used and produces a very good quality of sole leather.

In Oaxaca and elsewhere the bark of a species of Mimosa (M. huamuchil) is employed, chiefly in making the suede leather used for clothing, calzoneras, trajes, etc.

The principal vegetable tanning materials of the country are cascalote (Cæsalpinia cacolaco, or dividivi, C. coriatia); encinos (Quercus xalapensis, Q. castenea, etc.); palo blanco (Lysaloma candida); huamuchil ó pinzan (Pithelocolobium dulce); sumac (Rhus arometica and R. copallina); timbre ó timbre (Acacia malacophylla ó mimosa, sp.) uña de gato (Mimosa biuncifera ó acacia, sp.); raicilla (Calliandra grandiflora); torote (Bursera microphylla); canaigre (Rumex hymenosepalum); huinacastle (Entorobium cyclocarpum). The tans in general use are cascalote, guamachil bark, oak bark, palo blanco and timbre bark, and sumac leaves.

The States which surround the Federal District of Mexico produce those vegetable tans which are mostly used throughout the country, with the exception of palo blanco bark, which comes from Lower California and the coast of Sonora, and caraigre, which grows in the northern regions of Mexico but which is not used by Mexican tanners.

IMPORTANCE OF CASCALOTE—CLASSES OF LEATHER MADE.

Cascalote is the national tanning material, being used throughout the Republic, and is exported in large quantities. Toluca is the most important point of distribution of this valuable product, the towns of Iguala, Zitacuaro, Morelia, Patzcuaro, and Uruapan dealing in the same to lesser extent. The city of Leon consumes about 13,250 pounds of cascalote daily, at a cost varying from 7 to 7½ cents per 2.2 pounds. The price in Mexico City is $54 a ton. The State of Guerrero supplies over 500 tons of cascalote annually, and the output could be greatly increased. As the cascalote regions become more carefully cultivated there is a tendency, I am informed, to destroy the cascalote trees without looking to their replacement in the untillable areas. This would seem a serious mistake, inasmuch as cascalote is bound to become one of the most valuable of the natural resources of the districts producing it.

Sole leather is the principal product of Mexican tanneries, but a considerable amount of upper and harness leather is produced. There is also considerable output of mediocre morocco, or glazed kid, made from the "cabretta," or hair sheepskins, so common in Mexico. Several tanneries are also making a small amount of enameled leather on cowhide, coltskin, and pigskin. It is mostly of an inferior quality.

METHODS OF TANNING.

The most universally used method of tannage consists in placing the prepared hides for two days in vats with a "weak" or "sweet" tan liquor, until the hides have uniformly taken the color. They are then removed and sewed up into bags, roughly resembling the original shape of the animal and are filled with a stronger tan liquor and a quantity of ground cascalote. The filled hides are allowed to lie in rows on the pavement of the patio, the liquor oozing out and running into a centrally located pit, whence it is dipped, to be thrown over the hides and to refill them, from time to time, the liquor being gradually strengthened with cascalote. They remain, as a rule, sewed up for about fifteen days, and are for a part of this time piled up in piles of six or eight tiers, the pressure of the filled hides upon each other causing the contained tan liquor to gradually ooze through, and, it must be acknowledged, producing a very perfect tannage. Finally the hides are emptied, the sewing ripped out, and the hides put into a lay-away vat for six days or more, after which they are ready for the finishing processes, which amount to practically nothing more than a perfunctory putting out, the sole leather being sold while still damp. One of the leading leather merchants of Leon states that the shoemakers prefer it fresh and damp, and that it is difficult to sell dry, well-seasoned leather.

This method of tanning by sewing up the hide and filling it with the tan liquor is one of the oldest in the tanner's art. It is slow and sure, but it has been discarded long since in other countries. The exposure of the filled hides and of the tanning liquor to the sun and air produces deleterious changes in the liquor and causes a serious loss in materials and results.

The method employed for tanning light-weight hides and soft skins, in many cases, is modern, the chrome process being used in a number of tanneries.

COST OF TANNAGE.

The sole leather produced by the prevailing method represents, on the average, only about 40 per cent of the weight of the raw hide. Some tanners claim by special care to save as high as 50 per cent. Mexican tanners expressed incredulity when informed that the rule in the United States is to save 60 and 65 per cent, and that there are certain processes which guarantee a saving of 73 per cent of the weight of the raw hide in the finished leather.

The following schedule shows the cost of tanning 100 hides with cascalote in the Federal District of Mexico:

Material and handling.	Cost of materials.	Cost of handling.	Material and handling.	Cost of materials.	Cost of handling.
Washing and soaking	....	$0.75	Sewing up	....	$4.50
Preparing fresh lime	....	.25	Ixtle fiber, 22 pounds	$2.00	....
Lime, 507 pounds	$2.00	....	Oil	1.50	....
Eight handlings	....	2.00	Handling in tanning pits	....	12.50
Unhairing	....	3.00	Scouring	....	20.00
Working out the grain	....	1.50	Cascalote, 51 pounds per hide	125.00	....
Working on beam	....	3.00			
Drenching	....	1.50	Grinding the cascalote	....	5.00
Bran, 254 pounds	3.00	....			
Fleshing	....	5.00	Total	133.50	59.00

Fresh hides cost on an average 20 cents per 2.2 pounds, as received by the tanner of the Federal District. Salted hides are not used here, but are exported. The average weight of fresh hides is 62 pounds, although some localities produce cattle the hides of which will average 66 pounds. The best hides are obtained from San Luis Potosi and Vera Cruz.

The number of days required for tanning fresh hides with cascalote is as follows: Washing and soaking, 1; liming, 6; unhairing, 2; drenching, 2; fleshing, 2; working on beam, 2; sewing up, 2; total days in beam house, 17; in sweet liquid, 4; piling up, in sewed hides, with ground cascalote, 1; refilling with cascalote, 1; in bath or pit, 6; unsewing, 1; layaway, 8; grand total, 38.

The reason for the generally inferior quality of Mexican leather lies in the prevalent methods of tannage rather than in the materials used, and is to be found mainly in that department of the tannery known as the beam house. There the hides are washed, softened, unhaired, and plumped; in other words, they are prepared for the tanning process proper. I am told that it is an axiom among good tanners that the quality of the leather is determined by the state in which the hide goes to the tan.

PRODUCTION AND EXPORTS OF HIDES AND SKINS.

Statistics are not available as to the production of hides for the entire Republic, and only the official data as to the export are to be had. The output of the tanneries of the Federal District of Mexico and of the city of Leon, which are the chief points of leather manufacture in the country, can be determined. In these two markets there are tanned daily about 600 large hides and about 800 throughout the rest of the country, making an annual total of about 400,000, at least, or 110,000,000 pounds. There are probably at present about 26,500,000 pounds of this raw hide tanned in Mexico annually, which produce, under present methods, barely 12,125,000 pounds of manufactured leather.

One of the most prominent dealers in live stock in the Republic furnishes the following information concerning the approximate number of hides and skins produced annually in Mexico: Goatskins, 2,000,500, weighing 20 pounds a dozen and valued at 65 cents per 2.2 pounds; beef hides, 2,000,000, weighing 46 pounds each and valued at 20 cents per 2.2 pounds; sheepskins, 1,000,000, weighing 26½ pounds a dozen and valued at 40 cents per 2.2 pounds.

The following statistics showing the exports of hides and skins from Mexico for the fiscal years 1904, 1905, and 1906 are taken from the Boletín Estadistica Fiscal:

Description.	Quantities.			Value.		
	1904.	1905.	1906.	1904.	1905.	1906.
	Pounds.	*Pounds.*	*Pounds.*			
Cattle hides	12,133,678	13,122,784	15,690,317	$1,252,848	$1,444,726	$1,511,620
Goatskins	5,798,794	5,962,945	7,099,221	1,785,177	1,810,270	2,158,948
Sheepskins	452	1,254	16,884	342	100	5,950
Deerskins	627,285	583,359	636,758	173,244	163,651	185,548
Lizardskins	263,541	191,022	131,071	46,227	41,304	25,570
Pigskins	35,024	28,417	50,243	3,511	3,358	6,712
Unclassified	7,597	34,964	186,941	2,611	4,676	18,940
Total	18,866,371	19,894,745	23,811,435	3,263,900	3,468,085	3,913,288

MINERALS AND METALS.

THE WORLD'S MINES.

PERU.

FORMER PRESTIGE RESTORED BY AMERICAN ENTERPRISE AND MACHINERY.

Special Agent Charles M. Pepper, writing from Lima January 3, describes the progress being made in developing the silver and copper mines of Peru by American capitalists, and directs attention of manufacturers of mining machinery to opportunities presented for extending their present trade in that country. His report follows:

Cerro de Pasco is the most important center of the many extensive American mining interests in Peru. During the last seven or eight years a group of capitalists in the United States by their investments have restored the prestige which the region gained in Spanish colonial times as one of the world's greatest sources of mineral wealth. The difference is that in the former era the mines were exploited for the precious metals, principally silver, of which 450,000,000 ounces were taken from the time of the discovery up to the middle of the last century, while the present development is of the copper deposits with silver as a by-product. The American investments were made when the fall in silver rendered the operation of the mines for that ore alone unprofitable, and after investigation had confirmed the existence of copper deposits which assured this district as one of the world's leading sources of supply for an indefinite period.

Previous to the entry of the American company into the field the copper mines were worked intermittently by various private companies, the exports not being heavy. For several years there was almost a suspension of mining, due partly to litigation and partly to the preparations of the Cerro de Pasco Mining Company for working the deposits on a large scale and with modern facilities. Its operations include the opening up of coal mines, the building of railway lines, and the erection of a great central smelter. Many of the mines are still owned by private individuals or companies, some of which also operate small independent smelters. Up to the present none of the mines have been worked below 400-feet levels.

THE MINING DISTRICT.

The region commonly described as that of Cerro de Pasco lies between the two branches of the Cordilleras which, after following a parallel course from the south, approach each other near south latitude 11° and form the Pasco knot. The mineral district is a broken plain surrounded by low, rounded hills. From the basin of the plain four quebradas or great gulches branch off almost with the points of the compass, and their area comprises the ore deposits. The town of Cerro de Pasco is in the heart of the district. In addition to its importance as a mining center it derives some reputation from being the highest town in the world. The altitude is 14,200 feet. Morococha, in the neighboring district, where a group of mines are operated, is 15,000 feet above the sea level, but it has only a few score scattered inhabitants, while Cerro de Pasco is an active little Andean city, with a permanent population of 10,000, which is easily swelled to 15,000 in times of active mining exploitation. The majority of the inhabitants are natives of the sierra and are "cholos," or of mixed Spanish and Indian blood. They are the chief dependence for labor of all kinds both in and out of the mines. There is, however, a European colony which includes Austrian Slavs, Poles, Bohemians, Greeks, Spaniards, and Italians. The trade of the district, both wholesale and retail, is in the hands of the Austrian Slavs, some of whom maintain extensive warehouses and import their goods directly from abroad, while others are supplied from Lima. The Americans include the superintendents and managers of the mines, foremen, mechanics, railway employees, and clerical employees. The Cerro de Pasco Mining Company has provided comfortable living quarters in a central administration building and in separate buildings and cottages for them. The railway yards and shops are located in the basin of a lagoon which was drained by the company and reclaimed. The entire settlement is called La Esperanza, to distinguish it from the town proper.

ACCESSIBILITY—INDUSTRIAL WORKS AND DEVELOPMENT.

Cerro de Pasco is 221 miles from the seacoast at Callao, the line of communication being over the famous Central Railway through the Galera Tunnel, 3 miles above sea level, to Oroya, a distance of 138 miles, and then 83 miles to Cerro over the railroad which was built by the company and is owned and operated by it. This road, after leaving Oroya, the altitude of which is 12,179 feet, passes through the canyon to the pampa of Junin and then ascends to Cerro, the maximum grade being 2½ per cent. A branch of the line, 25 miles in length, lately has been opened from a point near Cerro to the company's coal mines at Gollarisquizga. The main line and the branch are of standard gage.

The heaviest expenditure of the Cerro de Pasca Company has been in the construction of the smelter and the accessory works, including coke ovens. The smelter is located 8 miles from the town of Cerro and half that distance from the beds of limestone which are used for slaking. Though the coal mines are 25 miles away, since the railway has been opened there has been no difficulty in assembling the copper ore, the coal for coking, and the lime for slaking. Some 2,500 persons are now employed at the smelter, and the colony of Americans is considerably larger than at Cerro. For their accommodation commodious buildings have been erected with detached cottages for families, while a clubhouse also has been provided. Improved living quarters for the native laborers are being constructed.

The leading independent enterprise in the Cerro de Pasco district is the Peruvian company known as the "Empresa Socavonera." This company was formed by Lima capitalists ten years ago to take over the concessions granted by the Government for "socavons," or drainage tunnels, one of the earlier concessionaires having been Henry Meiggs, the American who built the Central Railway in the face of supposedly insurmountable difficulties. His genius was expected to provide means by which the mines could be kept free from water, but his death avoided this test of his powers.

DRAINAGE TUNNEL OPERATIONS.

The necessity for drainage tunnels in the Cerro de Pasco district was shown about seventy years after the discovery of the mines, or at the beginning of the eighteenth century, when the waters appeared. The Spaniards worked the Indian slave laborers up to the waist, but within forty years after the appearance of the waters all the mines were inundated to a depth of 130 feet. In 1740 the first tunnel, known as the "socavon of Yauricocha," was opened to drain a group of mines, but it was not fully successful. Other efforts gave better results, and during the latter part of the eighteenth century the decrease in the production of silver was stopped, and even an increase obtained, the output in 1805 reaching 2,248,000 ounces. The production then began to fall off. Various new socavons were started, and about 1815 pumping machinery also was installed. One of the socavons begun during this period was the Rumiallana, which was to be operated in conjunction with new installations of pumping machinery. This and subsequent joint enterprises failed, and in 1900 the "Empresa Socavonera" obtained the concession from the Government. A leading provision was the right to exact a payment of 20 per cent on all the minerals which might be extracted in the zone served by the socavon in cases where the mine owners preferred to exploit their own properties rather than to arrange with the Socavonera for their exploitation.

The success of the Rumiallana socavon was always doubted, but serious difficulties were overcome and the tunnel, which is a little more than 2 miles long and 400 feet below the surface, has lately been completed. There has been vexatious and costly litigation between the Socavonera and the miners, including the Cerro de Pasco Company, and this has interfered somewhat with the taking out of ore. An agreement has been reached concerning most of the points in dispute, and a final adjustment of the entire controversy is said to be probable. Should such an adjustment be made, and should the Peruvian interests in the future cooperate with the American company, it will be of great benefit in the further development of Peru's mineral wealth both in the Cerro de Pasco district and in other parts of the country. It will also result in increased purchases of mining machinery, which is admitted free of duty.

SUPREMACY OF AMERICAN MACHINERY.

I have given these details because they show that the exploitation of the Cerro de Pasco district is at last on a permanent basis, and that in the future its contribution to the world's stock of copper will be a fixed quantity, while it also will be a steady buyer of machinery and supplies. The investment of actual capital up to the present time by the Cerro de Pasco Company has been, I am informed by the representative of the company, $17,500,000 gold, including large amounts paid for machinery bought in the United States. The whole Cerro de Pasco district is testimony to the supremacy of American mining machinery. The socavon has some English boilers and pumps, but its hoisting and other machinery is from the United States. The Cerro de Pasco Company, both at the mines, where powerful pumping machinery has been installed, and at the smelter has drawn so largely from the United States that it is difficult to find a piece of machinery of foreign make. The attention of the makers of American mining machinery should be directed to the importance of keeping themselves informed concerning the expansion of this region. The Cerro de Pasco Company's orders for material for the enlargement of the smelting plant and other improvements during 1908, aggregate $1,500,000. Some of these improvements may be deferred on account of the financial stringency, yet most of them are required in order to reap the full advantage of the present economical methods of production which have been adopted.

The independent companies, which operate small smelters, with their present equipment can only treat high-grade ore. Shipments of matte, in which not more than 55 per cent is copper, are made, but with the prevailing low price these shipments are not expected to continue. The remodeling of these small smelters is a possibility, and this would mean new machinery. A wider field, however, is afforded in the certainty of the enlargement of the mining zone now under exploitation. The Government is extending the Central Railway from Oroya to Huancayo, thus providing transportation facilities for an adjacent district, which has valuable deposits of coal and silver ore. The Cerro de Pasco Company and private parties are constantly making explorations and reconnoissances, and the outcome is likely to be the exploitation of some of the gold and silver deposits as well as copper and coal.

OUTPUT OF COPPER.

During 1907 the Cerro de Pasco Company shipped 20,152,000 pounds of copper to the United States, most of it via Panama. In December the quantity was 2,500,000 pounds, the highest of any month during the year. While freight facilities to the coast have to be taken into consideration, and more particularly the congested condition, and the insufficient facilities afforded commerce at Callao, it is assumed that this quantity will be maintained as the monthly average during 1908, and the total shipments for the year will amount to 30,000,000 pounds, or 15,000 tons. From this quantity a gradual increase to 50,000,000, and later to 75,000,000 pounds, is predicted, independent production supplementing it. The Peruvian prediction is that the ultimate copper output of Cerro de Pasco and the adjoining districts well be 50,000 tons.

The titles, dimensions, situation, and classes of minerals of the mines "denounced" (claims filed) in the Cerro de Pasco district up to the beginning of 1908, together with the names of the owners, are contained in the "Padron General," or general registry of mines, a copy of which (in Spanish) is forwarded to the Bureau of Manufactures. Further official information regarding mines is to be obtained through the department of mines, Ministerio de Fomento, Lima, Peru.

BRAZIL.

AMERICANS CONTROL THE DIAMOND-PRODUCING TERRITORY.

Consul-General George E. Anderson, of Rio de Janeiro, supplies the following information regarding the great changes in diamond mining in Brazil:

With the installation of dredging machinery at points along the Jequitinhonha River in the State of Minas Geraes, a revolution in the mining industry of the diamond district of Brazil is practically effected, which will probably revolutionize the diamond markets of the world.

American capital has obtained possession of practically all the diamond-bearing territory in the Diamantina country. The success of the work means that millons of American dollars will be spent in Brazilian diamond mining. Work on the mines already done has led to such a demand for improved transportation facilities that an American engineer has been summoned to take charge of the construction of a highway from the end of the railway at Curalinho to the mining country and American methods of construction are to be followed.

The city of Diamantina, which is the center of the diamond and gold mining activities for that portion of Brazil, is reached generally by two routes. One is by leaving the railroad at Curvello, Minas Geraes, and taking mule train for the three to four days trip. This route ranges over some very rough country, including two rivers separated by high ridges, the main ridge reaching well toward 5,000 feet elevation where the trail crosses it. It can only be taken by mules or horses. The other route is by leaving the railroad at Curalinho, farther north than Curvello. It can be taken in rough stages and wagons, but perhaps all things considered is a more difficult trip than by the former route. During the past dry season four American women in all have made the trip to Diamantina, but it is doubtful if any of them will repeat it until better means of transportation are provided.

TRANSPORTATION IMPROVEMENT, MACHINERY, AND PRODUCTION.

It is stated that the State government of Minas Geraes will extend railroad connections to Diamantina, provided the Federal Government will not do so, but how soon there will be any betterment is doubtful. The cost of transporting machinery and supplies under present conditions is all but prohibitive. The introduction of American rough-country wagons on the road from Curalinho to the Jequitinhonha River country, by one of the American companies installing dredging machinery there, has been so successful as to attract the attention of the State government, and that government at present is making a strong effort to secure the general adoption of these wagons for all such work by the Brazilian population.

There has arisen a demand for American agricultural machinery for the development of the country to meet the requirements for forage and supplies, and the Government is also seeking American capital for the construction and operation of a modern meat-packing plant with a view of furnishing supplies for industrial and agricultural colonies which it plans to establish in several portions of the State, especially near the diamond mining district.

It has been authoritatively established that some of the diamonds originally sold as Indian diamonds came from Brazil. Heretofore practically all of the output of Brazilian diamonds has gone to Europe, chiefly to Paris and London. The shipments to the United States are increasing in number and value, and it is the expectancy of the American interests now investing so heavily in Brazilian diamond properties that they will be able to sell their products direct to American buyers.

It is the understanding in the Diamantina district that the export tax on diamonds, which has heretofore interfered with the sale and shipment of stones, will be modified or removed altogether to the betterment of the trade. The exports of diamonds from Brazil in 1906 amounted to about $310,000, as compared with about $150,000 in 1905, but the figures in neither case even approximate the actual value of stones exported. These figures also include the declared values of black or amorphous diamonds from Bahia, the trade in which is increasing. [Further details of diamond mining in Brazil are embodied in Mr. Anderson's report, which may be consulted at the Bureau of Manufactures.]

NEW BLACK DIAMOND FIELD.

FURTHER DISCOVERY OF BEARING STRATA BY AN AMERICAN GEOLOGIST.

The scarcity of black diamonds and their demand for rock drilling has greatly enhanced their value in the past few years, hence the following report from Deputy-Consul-General Joseph J. Slechta, of Rio de Janeiro, on new fields of supply in Brazil will be of interest:

From a comparatively small area in the central portion of the State of Bahia are taken almost if not all of the world's entire supply of the black diamond of commerce, used for the purposes of what is known as the diamond drill. This area lies along the upper waters of the River Verde, a tributary of the great river San Francisco, mostly in a range of mountains known as the "Chapada Diamantina." The American geologist, J. C. Branner, in surveying the greater part of the northern half of the State of Bahia, included this diamond district in his surveys and in connection therewith made a most important discovery. It had not been supposed that the diamond district extended at all to the west and north of the River Verde, but Doctor Branner's explorations reveal the fact that the same diamond-bearing strata extend almost as far as the river San Francisco, covering an area of from 3,000 to 5,000 square miles.

The diamonds are found in gravel and conglomerate formations. As little is known locally of the occurrence of these formations the property is not held at a high figure and success should attend the efforts of any one properly equipped with capital and mining experience entering upon the exploitation of these fields. The area in question may be approached by rail from either Bahia or Pernambuco. From the terminus of the railways a journey of many days, either by water or by mule back, would be necessary to reach the objective point.

CANADA.

BRITISH COLUMBIA PRODUCTION STATISTICS SHOW MANY CHANGES.

From an advance copy of the official report of the product of mines in British Columbia for eleven months of 1907, and a close estimate of that for December, Consul Abraham E. Smith, of Victoria, presents the following summary of the mining operations in that Canadian province for last year:

The report shows that the product has decreased in gold, lead and copper, and increased in silver, coal and coke. The decrease in copper was caused by the almost total stoppage of work in all copper mines in October on account of the slump in price, rendering its product unprofitable, which stoppage still continues.

The production of coal in 1907 was the largest in the history of coal mining in British Columbia, footing up a total of 1,850,000 long tons. Both the Vancouver Island companies made large increases, 70,000 tons and 125,000 tons, respectively, making the total product of Vancouver Island mines for 1907 to be 1,325,000 tons of coal. New coal properties are being prospected in the islands, also in other sections of the province on the mainland, which are expected to largely increase the coal product of the province in 1908. Coke also exhibits for 1907 an increase over the production of 1906. Activity in building operations in Victoria, Vancouver, and several of the Pacific coast cities of the United States, notably Seattle, Tacoma, and Portland, increased the demand for building stone and Portland cement manufactured on Vancouver Island.

COMPARISON OF OUTPUT FOR TWO YEARS.

The following table shows quantities of minerals produced in British Columbia in 1906, and approximately the total in 1907:

	1906.	1907.		1906.	1907.
Gold, placer and lode (ounces)	271,447	223,000	Copper (pounds)	42,990,400	39,000,000
Silver (ounces)	2,990,262	3,000,000	Coal (long tons)	1,517,303	1,850,000
Lead (pounds)	52,408,217	45,000,000	Coke (long tons)	199,227	227,000

The total value of the production of minerals in British Columbia for year ending December 31, 1907 (last month estimated), as compared with 1906, is shown in the following table:

	1907.	Increase (+) or decrease (−).		1907.	Increase (+) or decrease (−).
Gold, placer	$700,000	−$248,490	Copper	$7,800,000	− $488,565
Gold, lode	3,885,920	− 744,719	Coal	6,475,000	+1,923,091
Silver	1,890,000	− 7,320	Coke	1,185,000	+ 138,865
Lead	2,250,000	− 417,578	Building material, etc.	1,200,000	+ 200,000

Thus the total metalliferous production was $16,525,920, a decrease of $1,906,582, while the total nonmetalliferous aggregated $8,810,000, an increase of $2,261,956, showing a net increase in value of production for 1907 over 1906 of only $355,374.

AUSTRALIA.

DISCOVERY OF RUTILE, A VALUABLE MINERAL, IN QUEENSLAND.

Consul F. W. Goding writes from Newcastle that in the Tinaroo district of Queensland has been discovered the valuable mineral rutile, hitherto of no commercial value. It is a titanium dioxide, containing from 70 to 98 per cent of titanic acid, chiefly depending on the quantity of iron present. Pure rutile contains 98 per cent of titanic acid and 2 per cent of iron, when the mineral is a crystalline substance resembling sealing wax. The examples found in Queensland contain 70 per cent and resemble wolfram, having a lustrous fracture and being uneven in the grain. The specific gravity of rutile is 4.2; it cannot be scratched with a knife, but can be marked with a quartz crystal. The mineral occurs with wolfram and tin, running in veins through quartz and quartzite from a mere streak to large bunches, and is worth four times the price of wolfram at the present time. The advent of flying machines driven by petrol motors at a very high velocity has proved that bearings and axles of ordinary metals submitted to at least 3,000 revolutions per minute wear so rapidly and heat so quickly that the necessity has arisen for some metal to stand the strain and velocity without wearing or heating, and this has been found in the metal titanium, of which rutile is the purest ore. Samples of rutile which were tested in Sydney gave very satisfactory results.

UNITED KINGDOM.

REVIVAL OF LEAD MINING IN ENGLAND.

Consul Frank W. Mahin, of Nottingham, reports that the mining of lead in Derbyshire, England, which was practically abandoned for many years, has now been resumed. With modern methods and appliances, improved over those of the past, it is hoped the result will be satisfactory. It is announced that a Liverpool firm of mineral merchants and metallurgists has undertaken this revival, after acquiring rights in the abandoned mines. They have already taken 400 tons of lead ore from one mine, and it is stated that in another mine nearly a mile of virgin vein with numerous cross veins has been revealed.

GOLD AND SILVER.

BRITISH INDIA.

RICH GOLD FIELDS IN THE DEVELOPING STATE OF MYSORE.

Consul-General William H. Michael, of Calcutta, contributes the following account of the gold-mining operations in parts of India:

The Kolar gold fields are located in Mysore State, and are attracting attention on account of their satisfactory and increasing output of the yellow metal. Mysore State is one of the most healthful, beautiful, best governed, and most progressive divisions of India. The State is forging ahead in internal improvements in the way of railways, electric trams, mills and factories, improved agricultural development, the improvement of water powers, the opening of manganese and gold mines, and in the education of the people.

The report of the chief of mines of Mysore for 1904–5 is just out, and shows that up to the date of the report there were 15 gold companies operating in that state, of which 5 were paying dividends, 5 producing but paying no dividends, and 5 producing neither gold nor dividends. The capital invested amounts to $14,982,370, and the average dividends paid on the capital were 38.88 per cent. The total value of gold taken out from the beginning of operations to the close of the report was $7,003,691, the total dividends paid $3,109,829, and the royalty paid to the Mysore government $347,118.

The five gold mines in the Kolar gold fields produced in October, 1907, 32,871 ounces of gold. The output of the largest mine was 17,520 ounces, an increase of 378 over the previous month, its operations having been as follows: 16,750 tons of quartz produced 15,347 ounces of gold; 15,600 tons of tailings treated by the cyanide process produced 2,173 ounces.

RESOURCES OF THE STATE.

The State has two cities of importance—Mysore and Bangalore. The latter is a popular "hill resort," and has modern hotels and residences. The population of the State is about 5,000,000, and the area 24,723 square miles. The land is undulating and broken and lies from 1,800 to 3,500 feet above sea level.

The soil is rich, and the country has a number of important rivers. Forests are plentiful and contain abundance of teak, blackwood, and other varieties of hard wood. There is considerable canal irrigation and some large tanks and numerous wells for irrigating purposes. As a rule, however, the rainfall is abundant and fairly well distributed. Bangalore and Mysore cities are reached by rail from Bombay and Madras, and the State contains several short lines for the accommodation of mines and commerce and passengers. The discovery of manganese ore in large quantity and of excellent quality has given an impetus to all kinds of business, and the successful opening of gold mines and other mineral resources has added to the general prosperity of the State.

THE GEOLOGICAL STRUCTURE.

The geological structure of Mysore State is mainly hypogene schists penetrated and broken up by plutonic and trappean rocks in every form of intrusion and overlaid with occasional patches of laterite and the kankar calcareous deposit. The gneissic rock about Bangalore possesses great economic value, being easily quarried from the surface. Gold is found between Anicul and Punganur, near Baitmangalam and Ooscotta, near the Batterine Hills, and elsewhere. Gold and manganese in paying quantity have been discovered in parts of Mysore within the last two years where their existence was not suspected a few years ago. In fact, the possibilities of the State are just beginning to appear under the scrutiny of science and the introduction of modern methods of mining and a better treatment of the soil.

As I have suggested before, Mysore State is a part of India that American manufacturers of mining machinery, electrical machinery, agricultural machinery, sawmill machinery—indeed, all kinds of machinery used in the development of a naturally rich country—might investigate with ultimate profit.

AUSTRALIA.

GREATLY DECREASED SHIPMENTS OF GOLD FROM ALL THE STATES.

Consul-General John P. Bray, of Melbourne, reports that the total shipments of gold from Australia from January 1 to November 20, 1907, amounted in value to $41,470,187, being $27,365,649 less than for the corresponding period of 1906. The following is a comparison of the shipments from each State for the two periods:

From—	1906.	1907.
Western Australia	$26,720,142	$24,567,387
Victoria	17,091,051	5,815,755
New South Wales	24,148,673	11,038,380
South Australia	875,970	48,665
Total	68,835,836	41,470,187

NEW GOLD SAVING MACHINE.

SUCCESSFUL OPERATION OF A RECENT INVENTION.

Consul F. W. Goding, writing from Newcastle, says that a new gold saving shake sluicing machine has been invented and patented throughout the Australian Commonwealth, concerning which he says:

The advantage of the apparatus lies in its simplicity and the fact that a large amount of material can be put through with very little labor. Two men are required to work it, one man pumping and shaking, the other continually feeding. About 16 tons per day can be put through with very little effort. The amount of water required is about the same as for ordinary cradles and other sluices. The inventors claim that sands and alluvial deposits yielding one-half pennyweight per ton can be worked to advantage. During the last few months the machines have been tested by treating tailings in the Dee River which had been abandoned by the Mount Morgan Company, the results being very gratifying. The machine is said to treat tin as effectively as gold. A company is to be formed at an early date to have the machine protected in other countries, none having been sent as yet outside of the Commonwealth.

CANADA.

INCREASING SILVER OUTPUT OF COBALT DISTRICT, ONTARIO.

Consul E. A. Wakefield, of Orillia, writes that the value of the output of the mines in the Cobalt district of Ontario, Canada, is increasing rapidly, as shown by the returns for the year 1907. Promotion and speculation have perhaps retarded development in the district, but its richness and comparative permanence seem assured. During 1908 reduction and smelting works will be in operation which, with improved mining methods, should insure a proportionate increase in the output. Following are the total shipments of silver ore from Cobalt to the close of 1907:

Year.	Tons.	Value.
1904	158	$136,217
1905	2,144	1,473,196
1906	5,129	3,900,000
1907	14,040	10,000,000
Total	21,471	15,509,413

TIN INDUSTRY.

STRAITS SETTLEMENTS.

MARKET RECESSION AND THE INTRODUCTION OF IMPROVED MINING.

Writing from Singapore, Consul-General Thornwell Haynes says that the present rapid fall in tin prices is causing considerable anxiety in the Straits Settlements, to which he adds:

Preceding the prospectus which recently appeared of a new smelting company formed at Penang, rumors of the flotation had greatly affected the local market, which heretofore had been almost exclusively controlled by a single trading company. The prospectus states that the capital of the new company is to be $851,637 gold, and that the existing works they are to take over can turn out 25 tons of refined tin every day, but it is expected that the output will increase to 800 or 1,000 tons per month. This expectation is doubtless based on the proposed enlarged works and improved machinery which the cash portion of the capital, or $681,310 gold, will enable the directors to purchase. A local paper in commenting on the venture says: "The company appears to have in it the elements of success; at all events, it promises to be a factor of great importance in the future development of the tin resources of the Federated Malay States."

The output of tin from the Federated Malay States in 1906 was 2,658 tons less than in 1905, and still less pro rata in 1907, as the following will indicate:

District.	1905.	1906.	First 9 months, 1907.	District.	1905.	1906.	First 9 months, 1907.
Perak	26,594	25,947	19,300	Pahang	2,076	2,053	1,425
Selangor	17,254	15,989	12,056				
Negri Sembilan	5,067	4,628	3,319	Total	50,991	48,617	36,100

Some assert that the decreased export is more imaginary than real, because the output has not fallen off to any appreciable extent. Certain it is that about 500 tons of the metal is held in the Federated Malay States by buyers awaiting a rise in price. The official returns are unavoidably misleading, in that the government takes cognizance only of exported tin, and when, as at present, much money has been paid, and the buyers see fit, owing to low prices, to hold the metal at the mines until a rise, the official returns do not accurately show the actual output.

WHAT IMPROVED MINING MAY ACCOMPLISH.

There seems to be a consensus of opinion by those qualified to judge that there is no immediate possibility of the aggregate yield of tin rapidly increasing. This is chiefly due to the wasteful methods adopted by the Chinese, but with the introduction of European capital and appliances quite a revolution may be looked for in the near future, for while the output from the Chinese-controlled mines will undoubtedly fall off, the returns from the European-controlled mines worked by the latest and most improved types of machinery will continue to increase. In fact, scientific methods of extraction are already beginning to have an effect in the returns of the various English-owned companies. The commercial agent for the State of

Victoria, Australia, who recently made a tour through the Malay States, says:

> What particularly impressed me was the extent of alluvial tin-bearing country, which has been surfaced worked in a primitive manner by Chinese, and its possibilities for reworking in a thorough and systematic manner by means of centrifugal-pump dredging plants, the same as those now in use in working old abandoned alluvial gold fields in Victoria. The ground has to be poor, indeed, which does not pay for reworking with these labor-saving, economical, Victorian dredging plants. Working night and day those plants, with six or eight men per shift, will do the work of 500 men as I saw them under Chinese system working, and what is specially important, will do the work better by saving more tin, and taking practically everything out of the material treated. My own opinion is that there is a great future for the tin field of Malay, provided these dredging plants are extensively introduced, and that this systematic and economical system of working would give profitable results to shareholders interested in their operations. This opinion I found shared by several of the leading men connected with tin mining in Malay and who have either personal knowledge or know from other sources of what is being accomplished by means of these centrifugal-pump dredges.

A mining editor after a tour of the field says:

> Other dominant factors in the present position are the slow exhaustion of the richer surface deposits worked by Chinese and the steady increase in the percentage of tin produced by the European-controlled ventures.

LABOR CONDITIONS.

As the decreased output suggests, there was no increase of laborers, the number being 212,660 in 1906 as against 209,014 in 1905. There was an increase last year of 1,000 Tamils, who, with the Javanese, amounted to about 10,000. Besides these there were 3,210 men employed by the smelters, making a total of some 226,000 men employed in mining and reduction of ore. Though the Chinese mine complement showed but slight increase when the record prices of 1906 are considered, the latter months of 1905 showed a slight recovery in the rate of Chinese immigration after the dwindling rate of the two previous years.

The total gain by immigration was 25,000, about half of which was offset by deaths. As from 90 to 95 per cent of the output of tin is said to come from mines worked still on Chinese methods, it is clear that the output will be chiefly governed by variations in the labor supply. The laborers continue to manifest an increased preference for "tributing" rather than contract or wage payment. The numbers for the past two years were:

	1905.	1906.
Tribute	114,952	125,882
Contract	63,590	59,259
Wage	30,472	27,519

WALES.

OFFERS OF AMERICAN STEEL BARS TO TIN PLATE MANUFACTURERS.

Consul Jesse H. Johnson, writing from Swansea, reviews the tin-plate market in Wales and the constant efforts to advance the economy of production in the industry:

Considerable excitement has been occasioned on the local tin-plate market through an offer made by an American company of 3,000 tons per month of steel bars for use in the manufacture of tin plates. This industry warrants not only the close attention, but study on the part of our manufacturers and exporters. The offer was made at a figure equal to $26.15 per ton f. o. t. in Welsh ports, but this is considered excessive by local users. The probability is that, were it possible to modify the price, negotiations would end in business.

It will interest American manufacturers to know that steel bar producers in Spain are constantly in touch with this market, seeking an opportunity to introduce their merchandise and to capture at least a share of local orders. However, according to analysis, the Spanish steel is not yet regarded as suitable for the manufacture of tin-plates. The requisite quality is well understood by American manufacturers, because in preceding years they have supplied the requirements of some local factories, and experience thus gained would make it superfluous in this report to go into the question of assay. The total quantity of steel bars used in the local tin-plate industry for 1907 up to middle of December was close to 800,000 tons, representing a value of about $20,000,000. This steel is produced in Wales, and the South Wales Siemens Steel Makers Association, established in 1906, produced the bulk of the above quantity. There are several other smaller makers here, who also supply the tin-plate trade requirements. It is therefore certain that if American makers are to successfully negotiate deals in Wales a careful observation of the market and a good knowledge of the local conditions are necessary. Although their ability to produce the right quality, etc., is unquestioned, to secure business here on lines which would enable our makers to supply, without hazard, resolves itself into purely a question of price.

MANUFACTURING ECONOMIES AND SALE VIGILANCE.

As far as orders for tin-plates are concerned the trade in Wales is brisk, but prices obtained are considerably lower; however, were the costs of the raw materials less inflated the outlook to the Welsh manufacturer would be at least gratifying. The tin ingot is a peculiar market, governed by a few, and current prices are well known to those Americans interested, but other materials, including coals, are very high, the latter being easily 30 per cent above normal.

I attribute the success of the Welsh manufacturer in being able to keep his factory in complete operation and at the same time combat the present inflated prices of goods necessary for his business, to: First, carefully economizing in every branch the cost of production; second, particular attention to all suggested improvements; third, vigilant attention to the demands and requirements of the new markets in China, Japan, India, and Australia. In the local mills I have observed that extreme care is exercised in every way to minimize loss, and the steel bars are invariably cut with such precision as to make "bar ends" as light as possible, while there is very little scrap at the shears. Every boiler used for steam generating is fitted with forced draft appliances and the steam pipes are always covered with an asbestos mixture. All this means economy.

During recent years the finishing departments, particularly the tin house, have been revolutionized. Some time ago I reported on a new patent riser and lister, which at that time was in an experimental stage. It is now perfected and being introduced to factories here and will be an important improvement, capable of producing a better surface to the finished article and at considerably less cost. [Illustrations and a description of the operation of the machine will be loaned by the Bureau of Manufactures to interested concerns.]

COAL TRADE.

EAST AFRICA.

PROMOTION OF EXPORT TRADE AT LOURENÇO MARQUEZ.

Consul W. Stanley Hollis advises that the Transvaal and Portuguese railway administrations, whose lines are served by the port of Lourenço Marquez have concluded arrangements whereby the export trade in coal from that point will be greatly facilitated. The consul adds:

The Lourenço Marquez authorities will start work at once upon a coal-storage plant, which it is estimated will cost about $35,000, and will discontinue its demurrage charges; and the Transvaal will offset this expenditure and exact cost incurred by the Portuguese authorities by giving them a larger share of the through freight rates on the coal that is shipped from the Transvaal mines to this port.

I understand that the coal store at Lourenço Marquez will be built from plans submitted by Mr. L. Backer, an American engineer, who is at present residing in this port. It is expected that with these improved facilities coal shippers will be enabled to materially reduce their prices on coal for export, and thus materially increase the coal trade of this port.

AUSTRIA.

LIMITED USE OF BRIQUETTES BY STATE RAILWAYS.

Consul-General W. A. Rublee, of Vienna, reports that briquettes are used to a limited extent by Austrian railways and only by the Austrian state system. The total amount used during the past year was 33,000 tons of briquettes, manufactured at Pilsen, Bohemia, and 11,000 tons of English briquettes. The total amount of coal used during the same period was 4,400,000 tons. The briquettes used were of two sizes—the one weighing 1 kilo (2.2 pounds) and the other 2 kilos, both sizes being made in an oval shape. The price paid for the Bohemian briquettes was 18 crowns (about $3.60) per 1,000 kilos and for the English briquettes 29 crowns (about $5.80) per 1,000 kilos. No specifications governing the purchase of briquettes for railways are in use.

CHINA.

GERMAN MINING SUCCESS IN SHANTUNG PROVINCE.

The annual report of a German-Chinese company operating coal mines at I-hsien, in southern Shantung, under the Chinese name Chung Hsing Coal Company, has just been made. Consul Wilbur T. Gracey, of Tsingtau, states that the favorable report shows that with a capital of some $200,000 a 10 per cent dividend was possible, while some $150,000 worth of mined coal is still on hand. The year is not looked upon as a very favorable one, however, as rains of unusual extent hurt the mines, and famines and poverty hindered large sales. Three hundred tons is the average daily output. Much hope is expressed that an enormous business will be done on completion of a short railway to the Imperial Canal, the material for which was contracted for in Germany early during 1907.

CANADA.

ADOPTION OF UNIFORM REGULATIONS FOR MINING LEASES.

Consul-General William Harrison Bradley, of Montreal, advises that the regulations governing the issues of leases of Dominion and school lands for coal mining purposes have been made uniform. The ground rent is to be made $1 per acre per annum, and the royalty 5 cents a ton. Not more than 640 acres are to be leased to one person.

MINE BLASTING INVENTION.

A BRITISH SAFETY METHOD TO PREVENT INJURIES AND DEATHS.

Consul Frank W. Mahin, of Nottingham, advises that a checkweigher at the South Normanton coal mine in Derbyshire, England, has invented a method of blasting which is claimed to much reduce the liability of accidents by ensuring the firing of every charge. Its need and method of using are thus reviewed by the consul:

Official reports for 1906 show 281 accidents from blasting operations in this country during the year, causing 43 deaths and injuries to 312 persons. It is claimed that nearly half of these accidents, deaths, and injuries could have been prevented by the use of this invention.

While the invention is particularly applicable to mines and quarries, it may be used in all kinds of blasting. It is thus described: The end of a tube with a loose central needle is inserted into a cartridge of explosive material, and the cartridge with the tube and needle are placed in the prepared shot hole. The hole is then rammed, after which the needle is withdrawn from the tube, and the detonator, attached to a suitable carrier, is then passed through the tube into the space left in the explosive by the withdrawal of the needle.

The detonator is coupled to the battery and fired; but if from any cause the explosive is not fired, or the detonator misses fire, it can be withdrawn and another detonator attached to the carrier and placed to the explosive, as in the first case. This method, it is claimed, places within the bounds of possibility the safe control of these detonators, which have been a menace to the lives of miners, as well as to the general public. They can be placed in charge of officials and kept from the workmen, and in case of "miss-fires" they can be returned to the makers or destroyed by means provided for that purpose.

MACHINES AND APPARATUS.

FARM IMPLEMENTS.

PERU.

FAIR MARKET FOR AMERICAN PRODUCTS—NEED OF MODERN MACHINES.

Special Agent Charles M. Pepper, writing from Lima, January 2, furnishes a report on the methods and implements employed in Peru in the cultivation of the soil, which contains facts and suggestions that should receive the attention of American manufacturers of agricultural implements and machines. Mr. Pepper's report follows:

Farm machinery in Peru up to this time has not offered a field for extensive sales by American manufacturers, yet though the market will not be a wide one until the projects for irrigation on a large scale are put into effect, it is not necessarily a stationary one. The lines along which it may be developed are indicated by the topography of the country.

The chief agricultural region consists of a series of fertile parallel valleys running the entire extension of the coast—1,300 to 1,400 miles—back to the chain of the Andes, the distance varying from 25 to 75 miles. Other rich farming districts lie in the plains and valleys of the sierras or mountains, but they are less thickly populated and less productive, though they offer prospects of further cultivation and the sale of farm tools. The cereals—wheat, barley, and corn—are produced in these districts and on the coast. The coast region is more important as the source of production of the 3 staple tropical crops of Peru. These are sugar cane, cotton, and rice. Machinery for the sugar mills and rice mills, cotton gins and presses, do not call for consideration here, but rather the implements for preparing the soil for cultivation and for sowing and reaping the crops. This is a market the opportunities of which have not been fully tested, though some of its drawbacks have been experienced by American manufacturers who are puzzled to know where the trouble lies, for they feel that there ought to be a larger sale for the product of their factories.

TRANSPORTATION FACILITIES.

The proximity of the agricultural districts to the coast, where there are numerous small ports or landings, gives easy access for delivering manufactured articles to customers. While heavy machinery is sent by way of Magellan Straits in order to avoid transshipment, this does not apply to plows, cultivators, harvesters, and similar implements. California factories, which have made some effort to discover a Peruvian market, of course can ship directly down the coast, but the Mississippi Valley factories shipping through New Orleans are at no serious disadvantage, since transshipment across the Isthmus is easy. In view of the facilities of transportation and of placing the goods in the hands of customers along the coast, freight charges do not add heavily to the selling cost of farm tools in Peru. Nor is there any addition for tariff duties. The Peruvian Government, having no domestic manufactures of this kind to protect, seeks to encourage the development of the agriculture of the country by making the importation of all classes of farm machinery free. But the customs-house returns of values do not indicate that this advantage has been widely utilized so far. However, taken with the transportation facilities, this should enable the manufacturer in the United States to understand that he has an advantage in the elements which enter into the selling price, proper allowance being made for the fact that both the wholesale and the retail dealers exact a larger profit than dealers in the United States expect.

PRESENCE OF AMERICAN SAMPLES.

There has been no lack of enterprise on the part of American manufacturers in introducing their output so far as samples may serve that end. The number and quantity of these samples help to make up the comparatively small total of values in the importations of agricultural implements, though they have not yet found their way into the hands of purchasers. I have visited the establishments that handle iron and steel products, some of which carry very extensive lines, and also the sample rooms of the firms of industrial and technical engineers who handle anything from a sugar mill down to a water wheel. All of them have full exhibits of improved farm tools, some of these articles too improved for the present needs of Peru. At the permanent National Industrial Exposition there are samples of American plows, etc., well displayed among more imposing machinery and, since this exhibit is affiliated with the National Agricultural Society, it is distinctively advantageous. Moreover, the Peruvian Government is a liberal buyer of implements for the Government School of Agriculture, and usually has a stock of the latest farm machinery, though some of this unfortunately is allowed to become fit for the junk shop instead of being put into use. But generally it may be said that so far as samples and exhibits serve to introduce manufactured products, the makers of agricultural implements in the United States have left nothing undone toward securing the Peruvian market, and it is hardly necessary to add that these samples are supplemented by an abundance of illustrated catalogues and similar literature.

KIND OF IMPLEMENTS NEEDED.

The exhibit of such a large variety of samples and the unfitness of some of them for the requirements of Peruvian agriculture suggest some general observations. Peru, outside of the mining districts, is a rainless country. The " wet " season on the coast is when the mists are thick enough to make the atmosphere foggy and the dew is perceptible to the extent of moistening the surface of the ground. There is no soft prairie soil. Most of the land is very broken and stony, much more like New England than like Illinois. This is true of the pampas or plains of the sierra as well as of the coast districts.

Another important consideration relates to farm animals. Horses are almost unknown for the ordinary uses of agriculture. Those imported from Chile and Argentina for carriages in the cities are quite expensive. In the country a very hardy horse is used for riding, but these animals never have been trained for the plow and if they had been breeding them would cost too much to make them available. When the Lima tramways changed from horses to electricity an enterprising cotton planter who was introducing American implements got a number of the worn-out tram horses and they proved excellent farm animals. But this source of supply was soon exhausted and could not be renewed. Some mules are imported from Argentina, but they also are too expensive for farm work. The reliance of Peruvian agriculture for the present must continue to be on oxen, though these animals, too, are expensive, the price on the sugar plantations, where they always are in demand, having risen to $150 gold per pair. But whether for the plow, the cultivator, the reaper and mower, or the harvester, the oxen are the sole animal motive power which the majority of Peruvian agriculturists know. American makers of farm tools, as is apparent from the implements which are to be seen in the different warerooms in Lima, have not yet taken this very important fact into account.

SUGGESTIONS ABOUT PLOWS.

Another point relates particularly to plows. The wooden stick or beam plow, which still serves the great majority of the population for turning over the soil, in many cases has a single handle and the peons or farm laborers know the use of no other. When a modern plow is offered its simple mechanism to them appears complicated because of the double handle. While the use of the single-handle plow is far from being universal, it is general enough to call for consideration in seeking to have the farming population change from the wooden prong and pointed stick to the improved implement. So far as I have observed only one American manufacturer has taken note of this peculiarity and has provided a single-handle plow.

I have stated these conditions of Peruvian agriculture before describing what has been done in the way of introducing American farm machinery. On the sugar plantations the situation is pretty well understood. Steam plows of a well-known English manufacture and tractions are used with satisfactory results. The American manufacturers got a wedge in by the importation of the disk plows, and some of them now are wondering whether the wedge is going to be pulled out. When the introduction of the disks was first attempted there was indifference by Peruvian agriculturists, competition among the different makers, then a united effort, the development of some enthusiasm over the prospects by Peruvian agriculturists, and finally a normal competition to secure the sale of their special products by the makers, the assumption being that the disk having once broken ground was firmly fixed. Now there is a reaction. The rainlessness of the country, the broken and stony soil, the mutual inadaptability of the disk and the bullocks and the peon, are all given as contributing causes. The best results are obtained on the sugar plantations where the disks can be utilized in connection with the steam plows, but even here the demand has fallen off and some of the dealers complain that they are overstocked. How far the reaction will go can not be predicted, but it seems to be certain that the market for the disks in Peru in the most favorable circumstances is a limited one.

Ordinary plows offer a better field. They can be manufactured with regard to the needs of the Peruvian dry soil and the broken nature of the country, the divisions of the land into small parcels, the single-handle habit, and even the requirements of oxen plowing.

VALUE OF PRACTICAL DEMONSTRATION.

It is the view of a number of persons familiar with the local agricultural conditions and the tendencies of the farm laborers that this market can be made a profitable one. With due attention to the points already noted, the essential requirement is demonstration of the way to use the plow. The "cholo," or Indian half-breed peon, who is the real field worker, is the individual to be reached. Some fairly experienced observers insist that he is not so backward as pictured, and that when the utility of the modern plow is shown him he will find means of buying and will use it. High-priced traveling agents perhaps can not be expected to spare the time for demonstrating the simpler and cheaper farm tools that is given by the engineer of a complicated installation of machinery, but manufacturers who want to develop this business must find some means of impressing on general and local agents the importance of getting the implements into use.

The need, as it has been explained to me, is for the educated farm hands, who know how to hold a plow or drive a cultivator behind the oxen. These do not seem to be entirely lacking. For several years past Peruvian planters have been sending their sons to the United States to be educated in the technical schools, and these have included several State agricultural colleges and institutions in which farming forms a part of the curriculum. In consequence there is now a body of young men who have had this practical instruction, and their numbers are growing. The head of an engineering firm which deals in farm machinery was making an installation on one of the plantations, when his interest was excited by the way one of the planter's sons was teaching the peons to use some improved plows. The young man taught by example. He plowed. According to the engineer's statement he had looked for nothing more from this graduate of one of the American agricultural colleges than a scientific knowledge of soils and similar subjects, but with this demonstration of practical knowledge he sought the young man's cooperation in one of the districts where his firm was trying to sell plows, and through him was able to find a practical instructor in plowing for the peons. The incident would be interesting in itself as a tribute to the educational work of American colleges, but it also suggests that American plow makers can find teachers who will understand how to introduce their manufactures. There are other college graduates in Peru who know how to plow and who can be discovered by the Peruvian representatives of the manufacturers. There are also students now at colleges in the United States who will be graduated and return to Peru.

SELLING METHODS.

How far sales are advanced or hampered by present selling methods is for the manufacturers to determine for themselves. Some of them place their goods in the hands of exclusive agents, while others refuse to follow this course. Few importing houses in Peru limit themselves to specialties. Firms handling groceries and dry goods also deal in agricultural implements. Some of the largest mercantile houses are also the owners of sugar and cotton plantations or the agents for them. These firms will usually give any manufactured article which they sell a chance on the plantations controlled by them, but they will not undertake to create a market for it. The firms of contracting engineers and industrial and mechanical engineers who are engaged in installing sugar and rice mills and similar heavy machinery all handle other agricultural implements, but as a rule their preference is for the installations, since these afford the larger profit.

In the sale of plows prices as quoted show little variation. The retail prices of disk plows, as given me by the house which handles several varieties, was $60 to $65, and ordinary plows $7.50 to $10. A cast-steel New England plow of standard quality sells in Lima for $12.50, though I am informed that in some places the price is $15. This implement is manufactured by a firm whose farm tools have an established reputation throughout South America, for one reason because it knows how to pack. I have heard it suggested that a $5 plow would find favor, particularly among the peons of the districts in which the cereals are raised. However, dealers with whom I have talked say that with factory prices what they now are, $7.50 is the lowest figure at which a good plow can be retailed in Peru.

OPPORTUNITIES OFFERED.

Brief consideration may suffice at present for other farm implements, because much that has been stated in regard to the general conditions of agriculture would apply to them as well as to plows. Reapers and mowers do not offer prospect of a large expansion, though one dealer informs me that their sale can be increased, particularly where alfalfa is grown. Harvesters have a good market, which can be extended. This also is true of cultivators, some of which have given very good results on the cotton plantations, where they have been used by Peruvians who have gained experience in the United States. Improvements which would increase their utility in weeding would add to their commercial value. Separators of several varieties are in use, and the demand for them is steady. The use of harrows is limited to the sugar and other plantations. On the small farms where the ground is turned up by the wooden plow the clods of earth are broken by sticks in the hands of Indian women. Iron plows may be introduced into these districts, but it is doubtful whether the harrow will follow at once.

For the benefit of manufacturers who may desire more detailed information regarding the nature of Peruvian agriculture and its special requirements in implements, I inclose the address of the official representative of the Peruvian Government, who would be best able to give them practical suggestions, since he is an American. [The address may be obtained by manufacturers from the Bureau of Manufactures.]

GOVERNMENT INVITES EXHIBITS.

TRIAL WILL BE MADE OF ALL AGRICULTURAL MACHINERY FORWARDED.

Mr. Eduardo Higginson, the Peruvian consul-general in New York City, addresses the Bureau of Manufactures inviting the exhibition of American farming implements at the National School of Agriculture in Lima. His letter follows:

It is the desire of the Peruvian Government to find out if the manufacturers of the United States would be willing to send to Peru all agricultural machines and implements suitable for use in that country. When the machines and implements arrive, with full instructions in regard to the operation and manipulation of same, the Government will appoint a commission which will report on the advantages of the various kinds of machines. If the report is favorable the Government will issue an official publication, copies of which will be sent to the manufacturers or makers and which may be used as advertisements on the good qualities of the implements.

It is to be understood, however, that all the machines or implements that are sent will remain in the hands of the National School of Agriculture of Lima, without any further obligation to indemnify the makers or exhibitor on the part of the Government or of the said school.

CHINA.

SALES OPPORTUNITY FOR BEAN HARVESTING AND CRUSHING MECHANISMS.

Consul Roger S. Greene, of Dalny, reports that there appears to be a great opportunity in Manchuria for American manufacturers who could put on that market machinery for the harvesting and hulling of beans, and for the manufacture from them of oil and of bean cake. He points out the present methods as follows:

Beans are the principal export product of Manchuria. They are grown on a comparatively large scale, better suited than ordinary oriental farming to the use of labor saving machinery, but at present the most primitive agricultural methods prevail. There is a growing interest in American agricultural machinery among the merchants here, who are in a position to judge the chances of introducing it among the Chinese.

The bean vines are now cut by hand, dried, and then the vines with pods attached are placed on a threshing floor, where the beans are shaken from the pods by a small stone roller dragged around over the vines by a donkey. They are finally separated by winnowing. If machines of moderate price could be put on the market to do this work effectively there would be a large opening for their sale here and farther north.

OIL MAKING EQUIPMENT—SELLING METHODS.

While a large part of the beans are used and exported in this shape, a very great quantity is used for the manufacture of oil and of bean cake. Some modern mills for this purpose have been put up, but old-fashioned methods still widely prevail. While it would not be so easy to sell such machinery as it would be necessary to find and interest parties with a greater amount of capital, there should still be an opening.

Manufacturers of machinery adapted to these purposes are requested to send full descriptive material with prices and discounts to this consulate. As there is much natural conservatism to overcome in introducing new devices on this market, and it is difficult to do this without ocular demonstration, I believe it would be good policy in the case of simple machinery to send a sample on consignment to some interested merchant, provided he is recommended by a trustworthy bank as being both reliable and energetic. The Yokohama Specie Bank, which has a branch here, has branches also in New York and San Francisco, so that information as to standing could easily be secured. The Hongkong and Shanghai Banking Corporation has local agents here.

[Local merchants who might be interested in the foregoing lines are recorded at the Bureau of Manufactures.]

BRITISH INDIA.

LOCAL INTERESTS SUGGEST THE ADOPTION OF AMERICAN WINDMILLS.

Consul-General William H. Michael, of Calcutta, quotes from a British India newspaper the following editorial on the introduction of modern windmills in that country, to which he adds a comment. The abstract reads:

> The extension of agricultural banks and the improvement in the education and experience of district boards ought to enable every village to become possessed in time of windmill pumps on the American system, which would enable deeper wells to be sunk and used and which would save the fields and the plow cattle at the same time. The land must have the water it needs, and this water, when the skies refuse it, is to be found stored deep in the earth.

The introduction of the American system of driven wells, pumps, and windmills, as the newspaper suggests, would come very near solving the problem of irrigation; but the three difficulties in the way are—the poverty of the Indian farmer, his want of mechanical ingenuity, and his prejudices against modern machinery and methods. American manufacturers of well-boring machinery, pumps, and windmills could pave the way to a big market for their goods by expending a few thousand dollars in introducing, by practical exploitation, their machinery and goods. As already stated, it can not be done by catalogues and correspondence.

It has been stated that the possibilities of canal irrigation in India are about at an end, yet only about 22 to 25 per cent of the land under cultivation in India is under irrigation. The vast areas capable of being brought under profitable improvement and the millions of acres now under improvement without irrigation suggest the needs of the American pump and windmill system, and it is only a question of time when either that or a similar system to be devised either in India by Europeans or in Europe will come to help the millions in India to freedom from the horrors of famine.

TYPEWRITERS.

FRANCE.

EXCELLENT AMERICAN EXHIBITS AT THE CITY OF GRENOBLE.

Consul C. P. H. Nason, of Grenoble, advises that an exhibition of typewriting machines was held at that French city from November 7 to 17, concerning which he says:

The display attracted much public attention, the press giving it daily notices and posters everywhere announcing its varied features. Some machines were advertised by large picture posters. The committee in charge was aided by the principal of a stenographic and typewriting school. The hall of the Chamber of Commerce, handsomely decorated, was utilized for the display and operation of the machines, supplemented by copying presses, automatic calculators, etc. Several open conferences were held and a banquet was given, attended by the organizers, agents of typewriter companies, and invited guests.

Most of the well-known machines were on exhibition, and of these all were American, except two German. The interest was heightened by several contests for speed and correctness in typewriting from dictation and copy, and in stenography combined with typewriting. Prize competitions, regional and national, took place under differing conditions. Thirty or forty competitors were entered, and some good records were made.

The result has been to stimulate interest in typewriting as well as in the use of shorthand or stenography. The typewriter is steadily forcing its way as a necessity into the commercial, the letter writing, and literary world. Without doubt the use of typewriters would be greatly increased were it not for the high price at which most of the first-grade machines are now held. Scores of offices and individuals would avail themselves of them, even where the correspondence is not extensive—for the sake of legibility and appearance if not more—were the price to come down, as in the case of sewing machines and bicycles. The American-made machines seem thus far to have the foreign field largely at their command. I hear of no machines as yet being made in France.

CHINA.

COMPETITION OF AMERICAN AND EUROPEAN MACHINES IN THE ORIENT.

Vice-Consul Ernest Vollmer finds that American typewriters are so generally admitted to be superior to the makes of other countries that it is not a surprise to find practically every make of American machine in use in the Far East. As to the Chinese market he writes from Tsingtau:

It must not be supposed that the European manufacturers are making no efforts to gain a market for their goods. [Competing makes named by the vice-consul are listed at Bureau of Manufactures.] Three American makes are small and much in use by commercial travelers, owing to their light weight and the ease with which they can be transported, and by clerks who desire a machine of their own, owing to their relative small cost as compared to the heavier makes.

The one thing which will injure the sale of American typewriters is the fact that the European agents of these machines will not take the trouble to sell them if they can just as easily place a machine made in their native country. Thus, one American make is represented by an agent here who is said to quote such high prices that it is cheaper to get the machines in some outside market, while the representatives of the German goods will do almost anything to gain an order. If American manufacturers can not maintain their own agencies, they certainly ought to have at least a traveling representative in the East to keep in touch with their agents and see that American typewriters have a chance to show their merits in competition with other machines.

CAPE COLONY.

VALUE OF THE IMPORTS AND SOURCES OF SUPPLY.

In a report from Port Elizabeth, Consul R. B. Mosher states that the demand for cheap typewriters in South Africa is decreasing, and although present conditions indicate a considerable falling off in the sale of machines for 1907 over the previous year, high-class machines are the most in demand. He continues:

The average price of a first-grade office machine of standard make is 28 guineas ($143). In 1906, 831 machines, valued at $55,566, were imported into Cape Colony, of which number the United States furnished 596, valued at $42,734; the United Kingdom and Canada 199, valued at $10,734, and all other countries 36, valued at $2,107. During the first six months of 1907, 344 machines, with a value of $27,569, were imported. Typewriter supplies valued at $6,370 were imported during 1906, of which the United States supplied $4,424, the United Kingdom $1,844, and all other countries $102. A duty of 15 per cent ad valorem is levied on all machines, with a rebate of 3 per cent ad valorem on those from the United Kingdom. [Firms of Port Elizabeth who might handle typewriters are indexed for reference at the Bureau of Manufactures.]

CUBA.

LARGE IMPORTATIONS FROM THE UNITED STATES.

Consul-General James L. Rodgers, of Habana, submits the following table covering the importation of typewriting machines into the Island of Cuba during recent years:

Countries.	1905.		1906.		January 1 to November 30, 1907.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
United States	1,308	$63,381	1,505	$73,971	2,033	$62,932
Germany	1	92	8	498	311	4,359
France			2	138	23	167
England				11		
Total	1,309	63,473	1,515	74,618	2,367	67,458

WEIGHING DEVICES IN FRANCE.

DIFFICULT MARKET FOR AMERICAN MANUFACTURERS TO ENTER.

Replying to an inquiry regarding the market in France for American scales and weighing apparatus, Vice-Consul-General Paul H. Cram, of Marseille, regrets his inability to give information of an encouraging nature, but gives the following trade details:

Devices of French make hold the market here, though occasional sales are also made of German articles. In this connection it is to be noted that American manufacturers must face an import duty which is 50 per cent higher than that applied to other foreign makes, the rates being as follows: General tariff, 15 francs ($2.89); minimum tariff, 10 francs ($1.93) per 100 kilograms (220 pounds) net. The sale of weighing instruments in Marseille is in the hands of firms who are themselves manufacturers on a large scale, and who by reason of that fact are not disposed to push the sale of foreign makes. However, one firm here has asked for a full catalogue of American machines, and expressed its willingness to interest itself in any device presenting special advantages.

French law requires every new model weighing machine of domestic or foreign manufacture offered for sale in France to be first submitted to the commission of meteorology at Paris and receive its sanction, without which the sale of the apparatus is illegal in this country. This requirement, however, does not apply to devices intended for exportation. The large domestic production of these articles in great variety and the heavy discriminating customs tariff against American manufactures constitute formidable obstacles to American export business in this line in Marseille. I submit herewith the addresses of dealers in weighing apparatus in Marseille. [Filed for reference with the Bureau of Manufactures.]

FIRE APPARATUS IN CHILE.

AN OPPORTUNITY FOR INTRODUCING AMERICAN APPLIANCES.

Consul Alfred A. Winslow, in reporting that Valparaiso has a voluntary fire department composed of fifteen companies located in different parts of that Chilean city, adds:

They are supplied almost exclusively with European-made apparatus and appliances, which fall far short of up-to-date fire-fighting machinery in use in the United States. The only fire alarms in use in this city of 160,000 inhabitants are a few large bells located in different sections that are tolled in such a way as to announce which company is desired by the use of the number of strokes given the bell in succession with different lengths of intermission. The water supply and pressure are good. There are several light fire engines, but in many parts of the city the pressure of the water mains is sufficient.

There have been several quite serious fires in Valparaiso within the past eight months, and the future is destined to see more, since much more wood will be put into the future buildings of this city in order to make them withstand the earthquake shocks that visit this part of the world periodically.

It seems that here might be a good opening for American fire-fighting machinery and apparatus. There is no report as to how much was brought into the country last year, but it must have been quite an item. There is talk of trying to improve the service. Now is the time for those interested to make an effort for the business. Fire-fighting machinery and apparatus enter free of duty.

METAL WARES.

FIREARMS.

ITALY.

CHANCE FOR THE SALE OF AMERICAN GUNS—TRADE REQUIREMENTS.

Consul James E. Dunning, of Milan, forwards the following report submitted to him by Clerk Siersdorfer, of his post, on the Italian firearms trade and the opportunity for the American article in Italy:

A part of the Italian demand for firearms is supplied by Italian manufacturers, who readily sell all the cheaper stock their factories can turn out. They are taxed to their utmost to supply even a small part of the demand. The most important native manufacturers of firearms are at Brescia and Gardone Val Trompia. A small firm started their manufacture at Como in 1906. In southern Italy, especially at Salerno and Avellino, there are a few small manufacturers whose stock is rarely bought, on account of its old-fashioned construction.

The rest and bulk of the demand is supplied by Belgian manufacturers. Their ordinary stock, in the first place, is much better in quality than the native and in the second place is as cheap, if not cheaper, naturally making it preferred in Italy at present. Belgian manufacturers enjoy an important advantage over Italian, and in fact many foreign manufacturers, solely on account of their special process, which is interesting enough to be explained.

BELGIAN METHODS—HUNTING WEAPONS.

One of the most important Belgian firms which has a strong grip on the Italian market is situated at Liége. It has the numerous small but important parts of its arms finished by peasants. These are collected by the firm or brought to its central factory by the peasants themselves, who receive their pay and depart with a fresh supply of material. The central factory puts the parts together, which requires comparatively little skilled labor. The stock is then placed on the foreign markets. This process is impossible in Italy, as no skilled labor can be had in this line. The class so employed in Belgium are here mostly occupied in farming, silk cultivation, and wine making.

The Italian demand for good revolvers and guns for hunting purposes is large, as this sport is popular in Italy and generally indulged in by a class who want the best stock and are willing to pay for it. The demand is at present supplied by Belgian, German, and English manufacturers. Buyers of fine stock in Italy are generally willing to pay from $8 to $30 for revolvers and from $30 to $75 or more for guns. The guns are generally double-barreled shotguns. There is little demand for the single-barreled rifle. The Belgian manufacturers practically hold the field for fine as well as cheap stock, exporting it hither in large quantities. The Belgian manufacturer's point is to make his fine article as attractive to the eye as possible, charging a high price for fine material and attractive appearance, but at the same time making his prices tally with those of competitors.

FIELD FOR AMERICAN STOCK.

The foregoing will help to show the American manufacturer what he would have to compete with on placing his articles in the Italian market. The Belgians would be his strongest competitors. In interviews with various local importers the consulate has noticed a strong desire on their part to import competitive American stock. These importers seem to be familiar with the American article and convinced that a profitable business could be done with it in Italy. To grapple with the demand for low-priced stock, which seems to be where the American manufacturer could make the most profit in the long run, he would have to place on the Italian market a revolver of good quality and good shooting efficiency to cost, retail, from $4 to $6. If he could do this, his road would evidently be clear to making good profit. He would have to place a cheap double-barreled shotgun to sell, retail, for from $10 to $15, or less if possible. Concerning the finer stock, the American article would have to go on its quality, appearance, and name.

The firearms trade in Italy is at present favorably carried on by expert agents, who represent a certain foreign firm. These representatives make trips throughout Italy themselves or have travelers to do it, a line of samples being carried. The retailer can import directly from the manufacturer or from his representative, who generally receives from 10 to 15 per cent on orders he books. Terms of payment are generally three months after date of invoice and 2 per cent discount for payment within thirty days. This is the popular way of doing import business in Italy, and the American firm could not sell goods under any stricter terms. It would be useless to try, except, of course, by personal representation, which is by far the best way for the American to place his articles in general on the Italian market.

LOCAL REPRESENTATION OPPORTUNITY.

If this is impossible the American firm should appoint a representative for Italy. [A list of parties willing to represent American firms accompanied the report and is filed with the Bureau of Manufactures.] He should be sent illustrative catalogues, price lists, and any other literature at hand, if possible in Italian or French, to acquaint him with the line of arms. If the dealer sees that the stock would suit the Italian demand he will probably order a line of samples, payment in any way agreeable to the American firm. The American firm, before doing any business in Italy, should be willing to export under the same conditions as Italy's other suppliers export. American standard firearms are undoubtedly superior in quality to stock of the kind already imported into Italy.

As has been stated in other reports of this consulate, the only obstacles in the way to selling American stock in general in Italy are the American export conditions. This market is waiting for American goods in general, and when once our firms decide to export according to the demand of the Italian importers Italy would prove a much larger market.

One of the most important firearms importers in Italy, and representative of one of the important Belgium firms, states:

> I have personally studied American firearms and believe there is an excellent field for them in Italy if American firms would send them to us under the same conditions as we receive other foreign stock of the kind. American firms should forget for the moment of transacting business that there is an ocean between us, and trust us with their stock. There is never any trouble between us and other foreign firms. Why should there be in transacting business with America? American firms should consider Italy as an important field for their goods and have confidence in the Italian importer, which is the only way American goods can flourish here.

Catalogues numbers 1, 2, and 3 accompanying this report [and obtainable from the Bureau of Manufactures] are of Belgian, German, and English houses exporting firearms to Italy. These catalogues contain prices, conditions of payment, and cuts of arms with full description. Guns of all kinds and values pay a staple duty of $2.90 each entering Italy. Revolvers of all kinds and values pay 68 cents each. Firearm parts pay from 59 cents to $1.93 per kilo (2.2 pounds).

BELGIUM.

LIEGE GUN MAKERS BUY AND RECONSTRUCT DISCARDED WEAPONS.

Consul H. Abert Johnson, in the following report from Liege, describes the Belgian industry of making over old army rifles and how they are sold:

Owing to the many and at times somewhat radical changes that have taken place in the equipment of the armed forces of the leading nations of the world, large quantities of war material, hardly the worse for wear but having become obsolete, must from time to time be discarded as unserviceable and disposed of, as a rule, at a decided pecuniary loss. This fact is particularly noticeable in the case of small firearms, as few implements of war have been more largely influenced by inventive ingenuity than the military rifle.

The purchase of these discarded weapons, usually sold at public auction, their subsequent transformation, and eventual disposition form rather an important element of the firearm industry for which this locality is so well known.

It is quite generally supposed that none but new firearms, the product for the most part of the larger factories, are shipped from Liege, but a visit to one of the several transformation workshops affords convincing evidence of the fact that the export trade in firearms from this region is far from being exclusively confined to the newly made article.

Among the well-known makes of firearms already transformed or undergoing transformation at the hands of the Liege gunsmiths may be mentioned several thousand Martini rifles discarded by the Roumanian Government; nearly the same quantity of Gras rifles superseded in France by the Lebel, as well as a number of Comblain and Albini rifles, formerly used and, to a limited extent, still in use by the Belgian civil guards.

METHODS OF ALTERATION—SALE PRICES.

All of these arms of the single-barrel type are transformed into the old-fashioned flintlock and percussion-cap guns. In order to effect the change, the barrel, together with the breech mechanism, has to be removed and is replaced by a muzzle-loading barrel; the lever is discarded, the wooden stock only remaining intact. The elongated cartridge can not, of course, be used in these converted guns, which must return to the old-time leaden bullet. In a word these weapons are antedated, so to speak, some three or four score years, returning to the type of small arm that was used by the Napoleonic troops. These transformed weapons, like other kinds of merchandise, have their current prices subject to the fluctuations of the market. At present prices range from about 80 cents to $2. The old Beaumont gun of the Dutch army is quoted at $1, while its original cost when new was $12. The Albini, a first-class arm and in good condition, sells at 90 cents.

Out of some 8,000 gunsmiths who ply their trade in their own homes, a large proportion are engaged in producing antiquities, so to speak, as fully 50 per cent of these transformed guns that are exported from Liege are flintlock pieces.

A large profit in this business is also derived from making use of the undamaged parts of these second-hand guns, parts that are usually in a condition to be profitably utilized, and substituting in their places parts of a decidedly inferior grade.

RESTRICTING THE SALE OF REPEATING RIFLES.

In many cases, among the discarded arms purchased are to be found excellent and serviceable repeating rifles, such as the Austrian Männlicher and the German Mauser, quoted to-day at $5 and $8 respectively. These arms are sold, as a rule, to the Governments of certain remote countries generally classed as uncivilized, and are disposed of without undergoing any modification. With regard to the German rifle, it may be mentioned that the German military authorities require the payment of 10 marks (about $2.50) on each rifle purchased, as a guaranty that the arm will not be sold to savage tribes nor to irregularly organized troops, this guaranty being refunded on the presentation of a receipt of sale showing that the arms were not sold to unauthorized persons.

These Austrian and German rifles, however, are classed as choice grades of arms, and the Sultan of Morocco, for instance, has not purchased an article of this class, although this potentate has on several occasions made rather important purchases of second-hand arms in Liege. Not long ago he bought some 40,000 Gras rifles at prices ranging from $1.90 to $2. Abd-el-Aziz has also purchased a few mitrailleuses discarded by some of the armies of Europe, and an entire set of military tents that had been used by the staff of the Belgian army during the annual maneuvers.

Regarding the smuggling of arms and their sale to unauthorized persons, it is, of course, difficult to get at anything like reliable data, although it is well known that this contraband trade is extensively carried on. The exporter here asserts that he disposes of his goods to importing agents in Hamburg, Liverpool, London, etc., and that if these importers sell them to savage tribes and other unauthorized persons it is their own affair and the Liege exporter is in no way interested. It appears that there are persons who make a specialty of this contraband business and who for a remunerative commission are ready to act as intermediary between these importers and any unauthorized purchasers.

IRON AND STEEL PRODUCTS.

CHINA.

FINE TOOLS AND CUTLERY MANUFACTURED FROM OLD HORSESHOES.

Vice-Consul Ernest Vollmer states that one of the constantly growing imports into the Chinese Province of Shantung through the port of Tsingtau is old horseshoes, which leads him to give the following particulars:

One steamer alone in November brought 300 tons of this scrap iron from Hamburg. The market for these worn-out shoes seems to be almost without limit. Chinese iron dealers buy the horseshoes and sell them to knife and tool manufacturers all over the province. It is claimed by the Chinese that the temper of this class of iron makes it the best obtainable for knives and cutlery and also good for other tools. The reason ascribed for this is that the constant beating the shoes have received under the feet of horses has given them a peculiar temper absolutely unobtainable in any other way, and that tools made from them are superior to all others.

EXTENT OF IMPORTS OF OLD IRON.

In transmitting the foregoing report Consul Wilbur T. Gracey, of Tsingtau, adds:

During the year 1906 old iron, principally in the form of horseshoes, to the extent of 46,558 piculs (picul equals 133⅓ pounds), valued at 84,149 haikwan taels (tael equals 83 cents), was imported into Kiaochow. The total import for China for the year 1906 was 741,590 piculs, valued at 1,347,395 haikwan taels, 453,346 of which came from Great Britain, 126,867 piculs from the Continent of Europe, and 110,226 piculs from Hongkong, probably originating in Great Britain. The largest quantity imported was at Chefoo, which imported 163,472 piculs, but it seems probable that owing to better shipping facilities this will in future gradually be diverted to Tsingtau. Newchwang imported 160,721 piculs for Manchuria, Tientsin purchased 134,353 piculs, and Shanghai 103,699 piculs.

It will be seen by these figures that Shantung, which consumed 210,030 piculs, valued at approximately $304,610 gold, imported through Chefoo and Tsingtau, is by far the largest market for this class of iron in all China.

AUSTRALIA.

BOUNTIES FOR THE ENCOURAGEMENT OF MANUFACTURERS.

Consul-General John P. Bray, of Melbourne, transmits a copy of a bill introduced into the Australian Parliament, entitled the "Manufacturers' encouragement act," which it was anticipated would be approved and become a law to take effect on January 1, 1908, providing for a government bounty to manufacturers of iron and steel. The following are the bounties provided for in the act: Pig iron made from Australian ore, and puddled bar iron and steel made from Australian pig iron, $2.92 per ton; limit of bounty January 1, 1913; total bounty to be paid, $1,216,625. Galvanized iron, wire netting and wire, and iron and steel tubes or pipes (except riveted or cast) not more than 4 inches internal diameter, 10 per cent on value; limit of bounty January 1, 1911; total amount of bounty to be paid $243,325. Reapers and binders, for the first 500, $39 each; limit of bounty July 1, 1909.

HARDWARE IN AUSTRALIA.

HEAVY IMPORTS FROM GREAT BRITAIN DURING PAST YEAR.

Consul-General John P. Bray, of Melbourne, reports that during 1907 the imports from Great Britain into Australia of hardware and machinery show increases under nearly every heading. The following is a list of the principal items imported from England during the first eight months:

Article.	Quantity.	Article.	Quantity.
	Tons.		*Tons.*
Pig-iron	2,570	Tubes, pipes, and fittings, wrought	13,000
Iron castings	112	Pipes and fittings, cast	8,173
Iron forgings	4	Nails, screws, and rivets	2,231
Bars, rods, angles, etc	23,170	Bolts and nuts	2,671
Cast-iron manufactures	2,397	Bedsteads	1,232
Wrought-iron manufactures	3,516	Steel ingots, etc	626
Rails	49,929	Steel castings	110
Railroad iron and steel, unenumerated	3,448	Steel forgings	11
Wire	2,786	Steel bars, angles, shapes, etc	12,121
Wire manufactures	15,813	Steel and iron manufactures, unenumerated	1,460
Plates and sheets	12,477	Copper, wrought or manufactured	1,345
Galvanized iron	49,765	Cutlery, value	$425,439
Tin plates	9,434	Hardware	2,693
Hoops and strips	2,090		
Anchors, chains, etc	1,414		

The total value of the foregoing for the eight months is $15,433,062, against $10,479,384 for the corresponding period of 1906, or an increase of nearly $5,000,000. Of this increase, rails account for $1,180,160 and galvanized iron for $1,303,263. The principal items of machinery imported from England during the same period were:

Article.	Value.	Article.	Value.
Steam engines:		Not steam nor electrical—Continued.	
Locomotive	$143,650	Mining	$190,037
Agricultural	125,298	Textile	108,075
Other	814,004	Other descriptions	2,527,869
Not steam nor electrical:		Total	4,098,702
Agricultural	165,320		
Sewing machines	24,449		

The increase in these machinery imports over last year amounted to $1,136,170.

METAL BEDS IN AUSTRIA.

OPENING FOR AMERICAN MAKE—TARIFF DUTIES—GERMAN METHODS.

Consul George M. Hotschick, of Trieste, replying to a letter from an American manufacturing concern regarding the sale of bedsteads in Austria, writes as follows:

In Trieste there is a field open for American iron and brass bedsteads, because they are superior in every respect to those manufactured in this country. Trieste should not be taken into consideration alone, but the interior of the country as well, up to Vienna, as this city is the natural port of entry for the importation of goods from the United States into Austria-Hungary.

Upon bedsteads a duty of $4.06 per 220.4 pounds is levied if they are made of iron or iron and wood; if of iron and brass the duty is $12.18 per 220.4 pounds. If the furniture is packed in separate pieces, and the brass work is shipped by itself the higher duties would be collected, while the iron parts would pay the lower duties.

I have several times observed that German importers send to Trieste, besides their regular salesmen, their sons or men personally interested in their business, who proceed from Trieste to the Levant, and even to the Far East, not for the mere purpose of selling goods, but to learn the usages and tastes of foreign people, to find out the best ways and means of transportation, to visit old business acquaintances, and take first steps to create new ones.

[A list of dealers in furniture in Trieste is filed for reference in the Bureau of Manufactures.]

ELECTRICITY.

MODERN UTILIZATION.

PERU.

FURTHER DEVELOPMENT WILL REQUIRE LARGE PURCHASES OF MATERIAL.

Special Agent Charles M. Pepper writes from Lima, Peru, concerning the use of electricity in that country, which offers unusual advantages for its development for power purposes. He says:

Electrical development in Peru is likely to call for increased purchases of material, notwithstanding the fairly large installations that have been made during the last two years. Hydraulic and electrical engineers the world over are familiar with the power that the Andes waters hold in reserve, but not all of them have kept pace with the recent application of this power and with the prospects for its further utilization. Some of the grander projects will have to wait a further period of industrial growth on the part of the west coast before they can become commercially feasible. Such is the proposed tapping of Lake Titicaca, by means of a tunnel through the crest of the Cordilleras, bringing 500,000 horsepower down to the Pacific. This vast volume of power can not be utilized profitably for many years, though some day it will be done.

Other large projects, particularly in relation to railway traction, manufacturing, and mining, are not so remote. The waters of the Peruvian Andes present ideal conditions for transformation into electrical energy in their freedom from ice, brushwood, leaves, etc., and these advantages are fully recognized in all the plans that are formulated. Peru now imports coal to the value of $1,000,000 annually, and it is estimated that 50 per cent of this amount could be saved in fuel by the use of water through electrical energy. When the Peruvian coal mines are opened up by getting railways to them there will still be economy in water power.

ELECTRICITY FOR A ROAD OVER THE ANDES.

The Central or Oroya Railway, running from Callao, and piercing the wall of the Andes in the Galera tunnel at an elevation of 15,665 feet, with 4 per cent grades and numerous zigzags and switch backs, offers the best opportunity for the application of electrical power for traction on a large scale. This railway, the main sections of which were built by Henry Meiggs in the early seventies, is still both in its engineering features and in its scenic grandeur the most remarkable railroad in the world. Naturally its transformation into an electric line appeals to the ambition of electrical engineers, some of whom have made careful studies at their own expense and prepared elaborate plans. The ampleness of the water power in the heights of the Andes is easily determined, but other questions requiring the judgment of experienced railway men, both in regard to engineering and to the relative economy of steam and electric power in handling traffic, have been carefully tested and with a favorable judgment. Some sections of the line present exceptionally favorable conditions for the economical operation of the road by electricity.

When the group of American capitalists who control the Cerro de Pasco mines offered to lease the Central Railway from the Peruvian Corporation, their plans contemplated the immediate electrification of the system and estimates had been made for that purpose. The offer was not accepted and the line will continue to be operated by the Peruvian Corporation. I am informed that the project of changing the motive power to electricity has not been rejected nor yet has it been definitely determined. It is under consideration in the expert technical examination of the property that is now being carried on with a view to obtaining the funds for the physical rehabilitation of the system that is necessary in order to provide for the increased traffic. Financial reasons may prevent an early change to electricity, yet it is the opinion of those who have given careful attention to the subject that within a few years the change will be made and that the economy of electrical power will be demonstrated.

ELECTRICAL SMELTING PROJECTED.

Possibly before the Central Railway is operated by electrical traction the mining industry will undergo a radical modification. Electrical smelting is by many experts thought to be on the eve of introduction. The water power is as abundant for it as for railway purposes. The Cerro de Pasco Company recently has completed extensive investigations of the power which may be obtained in the regions tributary to its properties and the results are reported to be satisfactory. Within thirty-six miles of the smelter an available 15,000 horsepower has been located, while at a distance of 55 miles and an elevation of 10,000 feet there is 25,000 horsepower. The transmission is said to present no serious difficulties, and when detailed estimates of cost are completed it is possible that definite steps will be taken for the installation of a great electrical power plant.

At Rio Blanco, 80 miles from Lima, on the Central Railway, the Boston capitalists who are erecting a big smelting plant, in order to take care of the ore in the neighboring districts, have about 3,000 horsepower available and are installing machinery for utilizing 400 horsepower when the smelter begins operations in April. The most successful mining installation up to the present time is reported to be that of the Inca Company, in the Santo Domingo gold fields of southern Peru. An electric plant of 400 horsepower, which was brought out and set up at some distance from the mine, where there was sufficient water power, is said to be giving good results in working the ores on a larger and cheaper scale. In the Department of Ancachs, which is the chief mining province of the country, some installations of small electric power plants are in prospect and this is regarded as a promising field. The lack of railway and other means of transportation renders freights expensive, but this is no more burdensome for electrical machinery than for other kinds of mining machinery and the saving to be effected in working the mines justifies the expense.

TROLLEY ROADS AND ELECTRIC LIGHTING.

The future of the trolley tramways has definite bounds, since Peru has only a small number of cities where street-car systems are required, and most of these are already provided with trolleys or have contracted for them. Lima and Callao made the change from horse cars some years ago and their local systems and the lines joining them are electric lines. One steam railway between Lima and Callao, which is controlled by the local trust or Associated Electrical Companies, will have its motive power changed from steam to electricity and be used for freight. The largest extension is of the lines between Lima and the residence suburbs and bathing beaches on the seashore, the most important of which is Chorrillos. A parallel and competing line between Lima and Chorrillos, which depends on steam instead of on water power for its motive force, was built and is operated with very unsatisfactory results to the stockholders, though recent extensions are said to improve the outlook for reducing the deficit. Ancon, a seaside resort 30 miles from Lima, which has also the facilities of a commercial port, may have the steam railway replaced by the trolley. In the towns of Trujillo and Chiclayo in northern Peru existing electric systems are being extended, while the trolley may also be introduced in Paita and Piura, but for many other towns the single mule tramway supplies all the necessary facilities for passenger traffic. At Arequipa in southern Peru an extension of the use of electric power is under way.

A few municipalities are not yet provided with electric lighting, but most of those have made provision for its introduction. Growth in the use of electric lights for private purposes in Lima and the other large towns is noted, and the companies engaged in supplying them find an increasingly profitable business.

Some of the larger sugar plantations have their own dynamos and small electric plants for lighting and other purposes, but these are not universal and the representatives of the various companies have still an open field. Efforts have been made to secure the introduction of electricity on the larger plantations to replace steam plowing and convincing arguments have been made of the greater economy, but so far without much success. Even the most progressive of the planters are conservative on this point and stay by the English steam plow, which has been in use for a generation.

ELECTRICITY FOR DOMESTIC PURPOSES.

The minor applications of electricity, such as to domestic uses in cooking, etc., have been introduced in Lima with passably encouraging results. An electric cooking stove has had some sales at the hands of a persistent dealer. The high price of coal renders its use economical. Telegraphic and telephone apparatus have a good market, since these systems are regularly being extended. The Government follows a definite plan in extending the telegraph lines. The local Italian hospital obtained its electrical appliances in the United States.

The leading electrical enterprise in Peru at the present time is that known as the Trust or The Associated Electrical Companies. This association supplies the power for all but one of the tramway systems of Lima and Callao, the electric lighting, and a variety of industrial purposes. The total available force is to be 17,000 horsepower, consisting of a central installation at Yanacoto of 8,000 horsepower, of which 5,000 horsepower is in 2 machines and 3,000 horsepower in a third machine to be installed—5,000 at Chosica, 800 at Santa Rosa, 400 at Piedra Liza—and 2,500 steam power in reserve. The consumption in 1907 was 7,400 horsepower for force and 3,300 for lighting. The Rimac River and its affluents are the source of these combined installations. Two miles from Chosica, which is 30 miles from Lima, a cement dam, headgates and canal were built to divert the waters of a stream called the Santa Eulalia to the Rimac at a point about two-thirds of a mile higher. At this point a concrete dam and gates are located, which divert the waters of both rivers into a canal a mile and a quarter long. The canal has a grade of 1¼ per cent. From the reservoir, 2 steel pipes of 1¼ meters diameter each and 670 meters long, lead to the station. The effective head is 47 meters. Here 5 double-nozzle, double-wheel Peltons, direct connected to General Electric revolving field 3-phase generators produce 4,000 horsepower. The velocity of the water as it strikes the wheel is 1,800 meters per minute. From the switchboard the voltage is raised to 35,000 volts and transmitted to Lima over a double set of transmission lines. At the chief station in Lima this high voltage is reduced to 2,300 for distribution.

MAKING BEST USE OF NATURAL ADVANTAGES.

Just below the bridge at Chosica a third dam has been built, and the river is again taken for the third station at Chacra Sana farther down the river. At the side of the dam 3 gates having their tops level with the crest of the dam lead the water to the canal. In the dam, just below the entrance gates to the canal, is located an all-steel gate, having its bottom 2 feet below the canal gates. This is to remove the immense quantities of sand and rocks that the river carries during high water. In 3 other places along the canal are located settling chambers and waste gates, to remove automatically the sand and gravel. This canal is 3 miles long, 1¼ miles being in earth and the remainder having cement walls and floors. The gradient is 3 feet per thousand.

From the reservoir a steel pipe line 6 feet in diameter and 400 meters long carries the water to the station. The effective fall is 79 meters. At this station larger units are located, each of 2,500 horsepower, 2 of which are in operation, the third of 3,000 horsepower, which will be installed, giving a total capacity for the station of 8,000 horsepower and 12,000 horsepower for the 2 hydro-electric stations. These 2 stations operate in parallel, or in synchronism with the Lima generating stations. The Chacra Sana station is constructed of solid concrete with concrete block trimmings for the doors and windows, and steel roof, entirely fireproof. It is 10 by 48 meters. From the transformer room 50-foot steel towers carry the transmission lines.

The Lima receiving and generating station has two 750 horsepower water wheels that operate under a head of 24 meters. A reservoir and steel pipe line, the same size as the Chosica No. 1 station, has an automatic relief pipe 70 feet high and 5 feet diameter that takes care of any sudden closing of the turbines, thus relieving the pipe line and wheels of dangerous strains. The steam section consists of 7 engines and boilers with an aggregate capacity of 3,000 horsepower.

MAINTENANCE OF DISTRIBUTION—MACHINERY FROM UNITED STATES.

From the general station at Lima all public and private circuits, power circuits, and railroad circuits are controlled by a switchboard with automatic switches. For the public street lighting, 10 circuits supply current to 400 of the latest type inclosed arcs and 1,200 series incandescent lamps for the streets of Lima. The private lighting service for Lima, Callao, and other towns is all supplied from the principal distributing station at Santa Rosa, Lima. Over 60,000 incandescent lamps are connected.

The Trust or Associated Companies is controlled by Lima capital, but the machinery is from the United States and the installation was made under the direction of American engineers. All the leading electrical companies of the United States have supplied machinery for the various installations in Peru and their representatives have supervised most of the work. The chief German company, whose head offices are in Berlin, is an active competitor through its local representatives and it has furnished the installation for the tramway system that does not have water power, for some municipal lighting and traction plants, and industrial plants including mines, a cartridge factory, and elevators. A Belgian company, with headquarters at Liege, maintains a local agency.

The prospective application of electricity on a large scale, such as for the Central Railway and for the Cerro de Pasco mines and smelter I have described, but there seems to be a more immediate application for light manufacturing. About 2,000 horsepower on 5 power circuits is now furnished by the Trust to the cotton mills, flour mills, biscuit, chocolate, and cigar factories of Lima and vicinity. Coal is expensive fuel for the local industries, and it has been demonstrated that with the water power which is available electric force can be furnished cheaper.

Most of the electric companies have their own agents and representatives in Peru and no suggestions therefore are necessary as to the means for reaching this market. The point on which I would lay stress is that electricity in all its forms will play a continually growing part in the industrial development on which Peru has entered, and the local conditions are such as to assure that the present world-wide monetary stringency will not seriously interrupt this development. Many enterprises are at the stage where they can be carried forward profitably by the utilization of electricity while to stop means loss. The industrial impulse in Peru is in reality too strong to be checked.

UNITED KINGDOM.

ADVANTAGES OFFERED BY CITY OF BIRMINGHAM TO MANUFACTURERS.

Consul Albert Halstead, of Birmingham, writes as follows in regard to the conduct of the electric light and power plant owned by that British industrial city:

The electrical supply committee of the Birmingham city council has been authorized to expend £20,000 ($97,330) for the purchase of motors. The idea is to increase the use of electricity as a motive power among small manufacturers by permitting them to hire motors from the city for power purposes. This, I believe, is a new departure in municipal business activity. At the same time there has been a reduction of the scale of charges for electricity for power purposes. Birmingham has expended several million dollars in erecting its modern electric power houses. It furnishes electricity not only for lighting and power purposes, but for the electric street cars, which the city also owns and operates. An additional plant has to be provided at an estimated cost of £231,285 ($1,125,548). There is friendly rivalry between the electric-supply committee and the gas committee of the Birmingham city council for business, each committee endeavoring to promote the use of its lighting and power facilities. The rivalry is keen, and it would seem as if it should be of advantage to both committees by leading to increase in the use of their supplies.

BRAZIL.

CONSTRUCTION OF NEW POWER PLANT AS A RESULT OF COMPETITION.

Deputy Consul-General J. J. Slechta, of Rio de Janeiro, states that the latest phase of the competition between the Brazilian company and the Canadian-American interests supplying electric power in all of the larger Brazilian cities has resulted in the decision of the former company to construct a rival power plant in the city of Sao Paulo, with the hope of in some way finding a loophole in the monopoly of the tramway system held by the foreign company. In the meantime they propose to construct an electric line between Sao Paulo and Santos, thus competing with the existing steam railway and menacing the success of the proposed extension of the Sorocabana Railway, which is controlled by the same group of capitalists interested in the tramway system. The Brazilian company is also making a hard fight to invade the territory of the foreign rival by securing such a legal decision as to their respective rights in the matter as will permit the former to compete with the foreign concern in supplying electric power to the Government consumers in the Federal capital. Both companies have large water-power plants, adequate in capacity to supply all the electricity needed by the city at the present time.

SPAIN.

DYNAMO FOR CONTINUOUS CURRENT WITHOUT COLLECTOR.

Consul-General B. H. Ridgely, of Barcelona, under date of January 17, reports that a Spanish engineer has taken out a patent for the invention of a dynamo for continuous current and without a collector, which can be used either as a generator or a motor. In the latter event alternating currents can be utilized. The principal features of the machine are:

1. The inductive magnetic circuits are perpendicular to the system of rotation.
2. The induced circuit consists of two parallel rings united by arms.
3. The wires are placed in a manner specially adapted to the form of the induced circuit.

The electrical energy that this machine is capable of producing and what its practical results will be are not yet known.

CANADA.

PROVINCIAL TELEPHONE SYSTEM IN MANITOBA.

Consul John Edward Jones, of Winnipeg, reports that by an act of the legislative assembly, passed on March 16, 1906, the government of Manitoba purchased for $3,300,000 and $100,000 additional for supplies and equipments all the telephone lines operated throughout the province by a private company, and came into possession thereof on January 16, 1908. To pay for the plant the government will issue forty-year debentures at par, bearing interest at 4 per cent. The consul adds that as soon as the cost of the service can be estimated it is expected a readjustment of rates will take place.

GERMANY.

WIRELESS TELEGRAPHY RECORD FOR OVERLAND TRANSMISSION.

Consul Thomas H. Norton, of Chemnitz, reports that by the Slaby-Arco system of wireless telegraphy over 1,000 words were recently telegraphed from the trial station of the company at Nauen, near Berlin, to the Austrian military station for wireless telegraphy at Korneuberg, near Vienna, a distance of about 372 miles. He adds that this is the record result thus far in the use of the system for overland transmission.

MARKETS FOR SUPPLIES.

KOREA.

INCREASING USE OF ELECTRICAL APPLIANCES.

Consul-General Thomas Sammons, of Seoul, furnishes the following information concerning Korea as a market for electrical appliances, fans, and motors:

The Koreans, having discovered the service and comfort afforded by electrical power and lighting, are rapidly installing small motors in their shops and lights in the homes at Seoul. The modern Korean palace has been lighted for some time by electricity, and of late commercial plants have been established at Chemulpo and Fusan, while two plants, under one management, supply light and power to Seoul, the capital.

The Seoul plant, which furnishes light for commercial purposes and power for electric tram lines, has recently been enlarged until its capacity is almost doubled, and further improvements are contemplated. This plant formerly furnished light from the tram-car current mains, but the result of the varying direct current, under this system, gave unsatisfactory lighting facilities. Therefore a new and improved plant, furnishing an alternating current of 100 volts, 60 cycles, and 7,200 alternations, was installed.

MODERNIZING KOREAN METHODS.

Attracted by the improved quality of the light furnished by the new system, many Koreans are installing electric lights in their homes. The company controlling this plant has been rushed of late with orders for three and four light wiring. The company installs fixtures of a standard nature, charging a monthly rental for these in addition to the regular current charges. This company, therefore, is steadily importing and installing American fixtures. The current supplied in Seoul is steam generated by engines of a modern nature. Of late this company has been installing for the Koreans many small motors, capable of running rice mills and other light machinery. The electric motor is a great novelty to the Koreans, who seem greatly pleased with it, and quick to see its advantages. The Koreans are reported as well pleased with the results obtained from the use of the motors and electric lights, and, consequently, the company supplying this trade is on the market for many and various electrical fixtures.

It is believed that electrical fans will be used in Korea as soon as the natives able to purchase them become accustomed to the various uses of electricity. It was some time before the Koreans began to enjoy electric car rides, and it is also believed that they are only beginning to show their appreciation of modern electrical improvements.

The American-Korean Electric Company, of Seoul, intends to introduce fans extensively during next summer, and electric flatirons, warming pads, and other novelties will probably follow in due course. The steady market demand at present, however, is limited to motors and fixtures. On account of the power companies' method of installing fixtures and then renting them to the consumers, there are no stores in Korea carrying exclusive stocks of electrical fixtures and furnishings, as is the case in the United States. The power companies import the bulk of these supplies direct.

MINING ELECTRIC PLANT—FUSAN AND CHEMULPO PLANTS—TARIFFS, ETC.

The Oriental Consolidated Mining Company, operating at Unsan, has recently installed a modern and complete turbine electrical generating plant, capable of operating their stamp-mill machinery and mine hoists. Water is carried from a reservoir, with 111,599,231 cubic feet of available water, through a flume to the power house. This company is using American electrical materials exclusively, and is at present enlarging the scope of its plant.

The electrical companies at Fusan and Chemulpo supply only current for electric lighting purposes and install appropriate fixtures, while the small plant supplying light to the imperial palace at Seoul operates but a few hundred lights. The Chemulpo company may be said to confine its material and supply accounts largely to German markets or German business connections.

The Korean duty on imports of this nature is 7 per cent, with no limit to the size of packages.

Shipments can only be made from New York to Kobe or Nagasaki, Japan, Kobe being preferable, thence to Chemulpo, the port of Seoul. Rates from Japan to Chemulpo, $3.98 gold per ton.

BRITISH SOUTH AFRICA.

DIFFICULTY OF INTRODUCING NEW GOODS AT CAPE TOWN.

Consul Julius G. Lay, of Cape Town, reports that there seems to be a very limited demand at that place for electric fans, one firm stating they had sufficient stock to meet their requirements for the next three years. The retail price for electric fans is said to be from $12 to $15.

It is possible that if American oscillating fans were introduced by one of the best known firms, and pushed energetically, sales might be made, but it is difficult to find a Cape Town firm willing to stock to any extent goods for which there is not a certain demand. It is further stated that during the present depression customers are scarce for electric fans, even at reduced prices. The electric current used for running electric fan motors in Cape Town is a direct current of 220 voltage. The current supply in Kimberly is an alternating current 3 phase 50.

EXTENT OF IMPORTS.

Consul R. B. Mosher, of Port Elizabeth, reports that the electric power in that city is supplied exclusively by the municipality. The direct current is used, with a 250 voltage. The duty on electrical goods of all kinds, except electroliers, lamps, and fancy fittings, is 3 per cent ad valorem; on the excepted goods 15 per cent ad valorem.

The imports of electric machinery and electric fittings at Port Elizabeth in 1906 amounted to $90,351 and $65,284, respectively. The imports into Cape Colony in 1906 were as follows:

Whence imported.	Fittings, including parts.	Electric machinery.
United Kingdom	$115,677	$272,621
United States	25,865	216,355
Germany	17,554	21,437
All other countries	$4,049	$3,329
Total	163,145	513,742

CONDITIONS IN NATAL.

Consul Edwin S. Cunningham reports that the supply of the electric current in Durban is a municipal monopoly. For special purposes a direct current of 550 volts is occasionally allowed, but for all general uses alternating current is employed. In a small district in the center of the town the pressure is of 100 volts, but for the most part the voltage is 200. In pressures the alternation is 62 periods per second.

ITALY.

EXTENSIVE USE OF FANS AT MILAN.

Mr. Siersdorfer, clerk in the Milan consulate, reports to Consul James E. Dunning that Lombardy does not seem to offer a market for American or other foreign electric fans, as instead of importing, many thousands of Italian-made fans are annually exported, two lots having recently been exported to the United States. At present practically all theaters, hotels, restaurants, barber shops, Government buildings, and business houses are supplied with electric fans, and the local demand therefor is very great. The electric current used for running fan motors, supplied by the electric lighting companies, in Milan is both direct and alternating. The direct current has 110 volts, and the alternating current 80 and 160 volts, and there are 42 alternations.

GERMANY SUPPLIES THE TURIN MARKET.

Consul Albert H. Michelson, of Turin, reports that nearly all the electric fans entering that market come from Germany. They are packed in simple wooden boxes. The customs duty on electric fans, as instruments, is 75 lire per 100 kilos ($14.47 per 220.46 pounds). general tariff, and 30 lire ($5.79), conventional tariff, same quantity. Imports from the United States are admitted at the conventional rates of duty. The freight charges from Genoa to Turin on electric fans are 2.85 lire per 100 kilos (55 cents per 220.46 pounds). Unshipping at Genoa, 14 to 30 cents per 220.46 pounds, according to the position in the ports where the unshipping takes place. There are other small charges at Genoa for storage, hauling, Government stamps on bill of lading, etc.

While there are three companies in Turin supplying current for power and light, the most important dealers in electric goods are interested chiefly in machinery for the following currents: 110–120 volts continuous and alternating current at 50 periods; 150 volts continuous and alternating current at 50 periods; 200, 220, 240 volts. continuous current.

AUSTRIA.

TRIESTE AFFORDS A FAVORABLE OPENING.

Consul George M. Hotschick, of Trieste, submits the following communication received by him from a civil engineer and expert in electrotechnics in that city:

> Up to date there have been no electric plants imported from the United States, but I think there is a field open for the introduction of American goods. Both for sale here and also in the Levant, Trieste is favorably situated to be an import and export trade market for electrical goods. In Trieste we have three phase current with 41,–6 periods=83.2 alternations, and two secondary nets, the first at 100 volts, the other at 210 and 120 volts.

TRADE IN BOHEMIA.

Consul Charles B. Harris, of Reichenberg, reports that large orders for electric goods for that district are placed with German manufacturers or jobbers, whose traveling salesmen, speaking the language and knowing the wants of the purchasers, have no trouble in making sales. American manufacturers to secure orders in Austria must also employ German-speaking salesmen. Cargo for points in the Reichenberg district is transported by rail from seaports, or by boats on the Elbe to Tetschen.

BRITISH INDIA.

GENERAL CONDITIONS AND TRADE REQUIREMENTS.

Consul-General William H. Michael, of Calcutta, reports that the electrical business is not specialized in India as it is in some other parts of the commercial world. A firm may do a general business, such as handling motor cars, motor boats, and a hundred other commodities not necessarily closely connected; but each department has a head, and generally he is a specialist, to attend to the work in hand. The duty on electric goods is 5 per cent ad valorem. There are no customs regulations as to how goods should be packed. As a rule, American shippers pack their goods, apparently, without regard to long distances, and the strain on packing by the ship's rolling, etc. Boxes should be strong, and bound with hoop iron. The electric current for fan motors is direct, and the voltage is 225.

NEW ZEALAND.

ELECTRIC LIGHTING PLANT IN AUCKLAND—PROPOSED TRAMWAYS.

Consul-General William A. Prickitt, of Auckland, contributes the following information concerning proposed electrical installations in New Zealand:

The municipality of Auckland is at present installing an electric lighting plant, the material for which has been bought chiefly in the United Kingdom. The present authorized expenditure of $125,000 will probably be considerably increased in the near future for the purpose of improving and extending the service.

A company is being formed called the "Takapune Tramways and Ferry Company," with a capital of $500,000, for the purpose of establishing a ferry service to O'Neill's Point, across the bay from Auckland, and a tramway from that point to and around Lake Takapuna, a distance of 10 miles. The town clerk at Napier states that propositions for the construction of electric tram lines for that city are now being considered.

There are various other propositions for electric installations in the Dominion during 1908. English companies have men on the spot looking after this business, and the only way for dealers in electrical supplies in the United States to compete is to send competent salesmen here.

COLOMBIA.

PURCHASES NOT MADE LOCALLY AT BOGOTA.

Consul-General Jay White, of Bogota, reports that there are no dealers in electrical machinery or appliances in that city, purchases being made in the United States or Europe by the interested parties, or from representatives of foreign houses in Colombia. The electric current in Bogota is alternating, and the voltage is 150.

BRAZIL.

ELECTRIC POWER AT BAHIA.

Vice-Consul Samuel J. Flake, of Bahia, reports that the electric current supplied by the electric company at that place is alternating, the voltage 110, and the number of alternations 60 cycles. A duty of 15 per cent ad valorem is charged on electric goods.

BUILDING SUPPLIES.

MARKETS IN VARIOUS COUNTRIES.

PERU.

EARTHQUAKE-PROOF MATERIALS AND THEIR ADAPTATION TO CITIES.

Special Agent Charles M. Pepper, writing from Lima, under date of December 15, portrays the general movement in the cities of Peru for more modern buildings, and points out the possibilities for the introduction of American construction supplies in connection therewith:

The Peruvian market for building material is worth the attention of manufacturers in the United States. Lima and Callao are enjoying something of a building boom, as the result of the prosperity of the country during the last five years. The many new structures going up are the evidence of it. They are to be seen in all quarters.

This activity is quite certain to continue, since Lima, after a long period of stagnation, has now every reason to look forward to a substantial growth because of expanding commerce, and this will call for additional means of housing the people and of providing for the needs of business. The present population of Lima is 130,000 and of the port of Callao 30,000. Jointly they will have 250,000 before many years.

As regards material which might be supplied by the United States, this will be better understood from a brief description of the present prevailing types of buildings and the considerations which govern their construction. They are of the modified Spanish colonial type, most of them with interior courts and suitable for a semi-tropical climate, in which chimneys are unknown. The houses are spacious because real estate is not allowed to become too valuable to permit of ample ground space. When that seems likely to happen, the resident moves farther out and often takes his business with him. While there are some streets devoted more particularly to certain lines of retail trade with stores for merchandise specialties, the shopping district is not a restricted one and general business spreads about where it pleases.

COMBINATION BUILDINGS—EARTHQUAKE-PROOF CONSTRUCTION.

As in all Spanish-American cities, professional men—lawyers, doctors, civil engineers—have their offices in their own residences and for them and their clients " downtown " does not exist. In consequence of these conditions many private residences consist of a single story extensively spread out, yet the majority of the structures are of two stories, the ground floor being usually occupied by the store or shop and the upper story as a residence. This is another feature which tends to prevent any marked division of the city into business and residential sections. Architects and builders in their plans make very little distinction of the locality in which a building is to be erected.

However, the most notable feature of the architecture and of the building construction of Lima is that full recognition is given to the fact that it lies within the earthquake zone and it is more particularly on this account that attention is called to the possibility of gradually transforming the character of the construction by the use of structural steel, expanded metal, and other material common in the United States. There has been no destructive shock for many years, but past events are so well known that an ordinary quaking, which is not infrequent, raises apprehension and more severe shocks are frequent enough to send most of the inhabitants into the streets and to cause all to look to the stability of the houses in which they dwell. Lima has two broad avenues on the outskirts fronting the Exposition Park and a splendid scheme of municipal improvements which has been projected contemplates a boulevard through the heart of the city, but even if the improvements are carried out it will remain a city of narrow streets whose buildings must be constructed with due regard to that condition.

STRUCTURAL MATERIALS.

To revolutionize the general character of the buildings is not possible in so conservative a community as that of Lima. The present construction is of brick and mortar and wood. The humbler class of dwellings comprises the usual adobe or mud cabins, and these do not offer much prospect of a change, since extreme cheapness is essential to them. Some tenements of this kind, however, which recently have been built are quite extensive. In the new buildings now going up brick is the chief material, but an effort is apparent to do away with the very thick walls that have been characteristic of the construction since Pizarro founded the city in the sixteenth century. The majority of the 2-story buildings have balconies which call for a good deal of iron railing.

Cement now is used in much larger quantities than formerly. Solidity is sometimes gained at the expense of utility and beauty, and this defect could undoubtedly be overcome by adopting American methods of construction. Steel beams, girders, etc., are being imported in larger quantities, but without the adoption of structural-steel buildings as a whole. In one extensive business block recently erected steel was used for the ground story and wood for the upper one. Another large building now going up on a neighboring corner will be of three stories, and structural steel from Belgium is used. Apparently its construction is not after the lines which an experienced builder would follow in employing this material. Another new structure in Callao is of structural steel from England. In both these buildings expanded metal from England will be used, this being, it is stated, also in the nature of an experiment.

SAMPLE BUILDING SUGGESTED—NATIONAL PALACE.

So far as can be learned these are the only buildings out of several score in which structural steel is the basis of construction, though there is an increasing use of beams and girders, and it might be added that sheet-iron roofing is coming into favor, dealers noting a marked increase in the importations of corrugated iron. The best advertisement for American building material and American construction would be a sample steel-structure building of three, or possibly four, stories. The latter would be the limit in height and three stories would be more likely to encourage a following in erecting this class of structures. Even with the assurance and the physical demonstrations which some day might occur of the security of these buildings during earthquakes Lima will never become a market for passenger elevators.

On a large scale opportunity may be afforded for demonstrating the utility of steel construction in edifices which are to be erected by the National Government and by the municipality of Lima. The Government is to erect a new National palace to take the place of the present old and historic one which consists of a single-story structure fronting the Plaza. The authorization was given by the Peruvian Congress some time ago, provision was made for the preliminary expenditures, and the plans of a French architect were approved. Construction will not begin immediately, possibly not for a year, but the new Government building is a certainty and its construction will call for a good deal of iron and steel. How much of this material will be used and possibly how far American methods will be followed may depend upon the intelligence and the force with which American manufacturers of building material present its advantages in the interval before the contracts are let.

ARCHITECTS' PLANS.

The municipal theater is one feature in the comprehensive project of beautifying Lima which has been inaugurated by the progressive mayor of the city, Señor F. Elguera. Revenues have been set aside for this specific purpose, and through a municipal-law authorization the negotiations for the building are now under way. In the meantime foreign architects, including several in the United States, were asked to submit plans for the theater. The latter apparently did not fully understand the requirements of the theater-going public in Spanish-American cities, particularly in the large proportion of space which it is the custom to give up to private boxes, and their plans have not been accepted. For that matter, the final plans have not been adopted, though the general features are fully determined. A suggestion which has been made to me is that the practical builder who has had experience in iron and steel construction in American theaters would be able to utilize these general plans to provide a working iron framework model. The sources of further information, both in relation to the new National palace and the Lima municipal theater, are indicated in a memorandum forwarded to the Bureau of Manufactures.

In Spanish-American countries individuals look to the Government to take the initiative, and the use of newer forms of construction, such as may be employed in the National palace and the municipal theater, would undoubtedly give a marked stimulus to similar construction by private parties. But in the case of Lima it is not necessary to wait for this initiative, since the modest attempts which are now making toward structural-steel construction show that there is at least some recognition of its utility, and ground is thus broken for further development. What is needed is a campaign of education by which the American methods and American material may be made more fully known. This can best be done by getting into direct communication with the constructors and contractors. There are not many native Peruvian architects. Much of the work of planning new structures and consequently of determining what material shall be used is in the hands of the class that in the United States would be called architects and builders. Several of the most successful firms are composed of Italians, and some of these contractors have had their training as master masons. There is a large Italian colony in Lima.

PLANS FOR A TRADE CAMPAIGN.

Opportunities, however, are not limited to these builders. Civil engineers and electrical engineers as well as architects are frequently in a position to advise in regard to the material to be used for new buildings and also the construction plans. They could be reached directly by correspondence, which should be in Spanish, though circulars and illustrated catalogues in English may serve a purpose if supplemented by letters in Spanish. Incidentally, the usual hint may be given about care in prepaying full postage. A list of architects and builders and civil and electrical engineers with whom correspondence may be opened is forwarded to the Bureau of Manufactures. This covers iron and steel products, sheet-iron, roofing, builder's hardware, cement, expanded metal, etc. Immediate returns in the way of orders are not promised, but a campaign of education of this kind is certain to bring ultimate results and to influence a change in the charcter of building construction.

It is the opinion of dealers and architects that if the present industrial conditions throughout the world result in lowering the price of building material immediate advantage will be taken of it here, and the present activity in construction instead of lessening will increase.

CEMENT AND EXPANDED METAL.

Ocean freight rates are not excessive, but the local conditions are such that the transfer of freight from the steamer to the wharf at Callao and the transportation to Lima (9 miles) sometimes, equals the rate from New York. The policy of the Peruvian Government is to afford low tariff duties on building material. The iron and steel schedule may be obtained from the Bureau of Manufactures. Cement, of which large quantities are used, is admitted free, but there is general complaint about high prices. After the Valparaiso earthquake, when a heavy demand was foreseen, the price jumped to $6 a barrel, but this caused the demand to cease and the quotations dropped to $4. Recently the selling price has ranged from $3 to $3.25 per barrel, and builders insist that this also is too high. The importations are from Belgium, Germany, England, and the United States. Ordinarily, American cement does not have much chance in competition with the cheap European cements, but one large importing house informs me that it has found an excellent market for American cement of a superior quality which sells about 12 cents a barrel above the Belgian cement. Reenforced concrete is used in the construction of bridges, but it is too expensive for more general use, though it is being employed to some extent.

The Government has just put expanded metal on the free list so that the tariff duty may be eliminated as an element of cost in Lima in making prices for this article. A builder tells me that the lowest quotation he has been able to get for an order to be filled in England is 27½ cents gold per square meter delivered in Lima and this is for the material in its simplest form.

CHILE.

RECONSTRUCTION OF VALPARAISO—CLASS OF BUILDINGS NEEDED.

Consul Alfred A. Winslow, in reply to several inquiries relative to the Chilean earthquake of August 16, 1906, and the reconstruction of Valparaiso, writes as follows:

The property loss caused by the great earthquake has been variously estimated from $100,000,000 to $150,000,000, but the former seems to be near right, and of this fully 25 per cent was caused from the fires during the six days following the earthquake.

The property destroyed by fire was covered by fire insurance to the value of $10,612,500, of which $5,674,000 was written by foreign companies and $4,938,500 by Chilean companies. Both the foreign and Chilean companies have settled the losses caused by the fires of August 20 and 21 on a basis of from 30 to 75 per cent. This was done because there was a period of about twenty-four hours from the 19th to the 20th when there was no fire. All the foreign companies have refused to pay any claims for losses by fire during August 16, 17, 18, or 19, but the Chilean companies are settling their claims on a basis of from 10 to 15 per cent on losses sustained during the night of the 16th, and from 30 to 50 per cent for losses during the other days. No insurance companies failed on account of the losses, but some of them were very hard pressed. The foreign companies have been successful in resisting every case brought against them in the courts of Chile so far. There is no American insurance company doing business in Chile. [A list of the foreign companies interested, forwarded by the consul, may be secured from the Bureau of Manufactures.]

SLOW PROGRESS IN REBUILDING.

The Government of Chile has made no provision for aiding individuals to rebuild, providing only for widening and straightening some of the Valparaiso streets and rebuilding the public buildings, the appropriations amounting to $7,476,000. Neither has there been any concerted action taken on the part of the interested parties to secure loans with which to rebuild. But little has been done as yet in that portion of the city that suffered most further than to clear away some of the rubbish and erect temporary quarters until such time as provision can be made for rebuilding. A large proportion of buildings that were not beyond repair have been put in shape, which has greatly relieved the strain. Most of the temporary shanties have been removed from the streets, boulevards, and parks, and the people are comfortably housed. Warehouses for the storage of merchandise are most needed, for these suffered most, being located near the water's edge, where foundations were laid on made ground.

No labor troubles have interfered with the rebuilding of the city other than a great increase of wages, which are now double what they were before the earthquake, and the work in general has progressed quite satisfactorily, considering the financial situation.

No additional building regulations have been made, either by the general Government or by the city authorities, other than to change the building line on some of the streets, etc.

STUDY OF EARTHQUAKE CONDITIONS.

The Chilean Government has employed Montessus de Bellori, a noted French seismologist, to study the earthquake conditions in Chile, and to give advice in the matter of the reconstruction of public and private works so as to best withstand the earth tremors that are so numerous in this part of the world. He has been put at the head of a department in the National University at Santiago. He will study the great earthquake conditions and how to build on made land so as to best resist earthquakes. This is an important matter, as a large portion of Valparaiso must be rebuilt on what is known as made land, where it is not practical to go down to bed rock because of the great cost. It is the part of the city where there is room to give proper width to streets and rebuild a modern city, if the public can be assured it can build a certain class of buildings with comparative security. For the larger buildings steel seems thus far to be the heavy frame work selected to reenforce the cement work. In the smaller structures much wood is being used. The long, double T-shaped bars are brought out and cut to lengths, and holes drilled either by hand or by crude machinery. It seems that it would pay some one to get out plans and have the parts made in the United States and shipped here for erection. A force of men has been at work on a steel construction building, near the American consulate, for about a year, and it has just reached the second story. It is on a valuable site and the owner is losing heavily because of the delay. The contractor is crowding matters as hard as he can under the circumstances, and works his men every day except Sunday, early and late.

SALVADOR.

FEW OPPORTUNITIES FOR SALE OF AMERICAN MANUFACTURES.

Consul-General Samuel E. Magill, of San Salvador, states that in the building line there are very few opportunities for the American manufacturer in Salvador, such as may be worthy of consideration. He continues:

Being in the tropics and in the earthquake belt, the system of construction in this country is of the lightest consistent with the climatic conditions. Few buildings exceed one story, but churches, public buildings, and a few business blocks reach two and some three stories.

The method of construction of a one-story residence is about as follows: On a foundation wall 2 to 3 feet in depth of stone and cement are laid wooden sills which hold the uprights. Between these uprights are nailed double strips of wood about 6 inches apart. When the framework of the house is thus prepared, the spaces between the strips are filled with a combination of dirt and water, into which are injected pieces of broken tiling, brick, etc. This is allowed to dry. Meanwhile the roof joists are placed and the roof, consisting of either tiling or sheets of corrugated iron, is put on. When the filling of mud is dry it is covered inside and out with a coat of mud plaster, which is all that the walls need preparatory to the finishing touch, which may consist of another coat of cement or sheets of corrugated iron on the outside of the structure and for the inside either paint or paper, according to the taste of the owner. All material used is native except the cement, corrugated iron, nails, and paint. The Portland cement comes from Germany, Belgium, and England, in the order named, little or none coming from the United States, and costs f.o.b. cars at the seaports of this country from $3 to $3.50 gold per barrel of 400 pounds, retail price being about $1 gold in advance. It is estimated that about 12,000 or 15,000 barrels are used annually in this Republic.

The sheets of corrugated iron come chiefly from England, a fair proportion, however, from the United States, due to the special efforts of the few American houses located here. The freight rates from English ports are about $3 per ton less than the freight from New York. About 100,000 sheets are marketed here annually.

Nails are coming almost exclusively from Europe at present. Until recently some were imported from the United States, but a recent advance in the prices quoted in the latter country has caused a cancellation of orders there for this market.

The quality of American paints is better than that from Europe, but the difference in price often decides the purchaser in favor of the European article.

Iron and steel beams are rarely used in construction here, owing to the danger possible from the falling of such weights in case of earthquakes. Such as are used are supplied by the one iron foundry in Salvador.

The American manufacturers desiring to enter this market should endeavor to have transportation companies equalize freight rates from New York with those from European ports. Shippers of sheets of corrugated iron should pay more attention to the packing for shipment. English shippers bind the ends and edges of each package of sheets in burlap or metal, thereby preventing broken edges. [Names of dealers in cement and corrugated iron are listed for reference at the Bureau of Manufactures.]

VOLCANIC ASH WITH CEMENT.

JAPANESE PRODUCTION OF THE ARTICLE AND ITS PRACTICAL USE.

Supplementing his previous note upon the use of volcanic ash with cement, Consul George H. Scidmore, of Nagasaki, writes:

On November 24, 1907, I visited the deposits and works of the Kyushu Volcanic Ash Company near Karatsu on the northwestern side of this island of Kyushu. I was accompanied by the president of the company and Commander Roy C. Smith, of the United States ship Chattanooga, who, with several other officers of the American Navy, was detailed by Rear-Admiral Hemphill to make an investigation and report for the benefit of the Navy Department, as large quantities of cement are required for work in the Philippines.

The company simply makes use of that species of volcanic earth known as "pozzuolana," which is stated to have been used in hydraulic cements in Italy as early as 200 B. C. Later its value was recognized throughout Europe. It is contended by this company that Portland cement, when used alone for marine work, is liable to crack and cause serious damage after a lapse of time, and the reason given for this defect is that the "free" lime which is produced during the setting of the cement combines with sulphuric and carbonic elements.

GERMAN EXPERIMENTS—ABUNDANT DEPOSITS.

Credit is given to Doctor Michaelis, a German, for solving the problem by the admixture of pozzuolana, his theory being that the soluble elements of the pozzuolana absorbed and combined with the "free" lime of the Portland cement and thereby not only neutralized any harmful effects, but, by judicious treatment, helped to give greater tensile strength to the compounds than if the cement were used alone. A more compact setting, special value in sea work, and cheapening of cost are other important advantages claimed for the addition of pozzuolana.

The abundant deposits of this material throughout the volcanic regions of Japan have led to a careful study of the question and resulted in the establishment of several plants in this district. The considerations of uniformity of quality, abundance of supply, and convenience in working and transportation led the volcanic ash company to select land situated at the top of a range of mountains, on a high road about 7 miles from Karatsu and about 3 miles from Yobuko, excellent ports on the northwest coast of this island.

METHODS OF HANDLING—JAPANESE ANALYSES.

The pozzuolana is dug from the hillside and conveyed in carts to adjacent mills where it is spread on an open field for drying. Later the drying is completed over furnaces and the material is then ground and sifted through sieves of 2,500 to 5,000 perforations to the inch. Of several species of pozzuolana the company prefers that of a heliotrope color and special to the Karatsu district. Samples of it, both crude and in powder, accompany this report, and have been furnished to Commander Smith for experiments in the Philippines. [The samples will be loaned to business firms making application to the Bureau of Manufactures.]

The following are analyses of the Karatsu pozzuolana, or volcanic ash, as furnished by the company:

Composition.	Heliotrope.	Gray.	Mixture of 1 and 2.
	Per cent.	*Per cent.*	*Per cent.*
Decrease in heat test	9.90	9.70	8.40
Silicic acid	41.95	42.10	44.15
Ferric oxide	18.56	18.28	17.40
Alumina	25.00	25.72	24.81
Lime	1.83	1.15	1.57
Magnesia	.82	.85	.94
Sulphuric acid	Trace only.		
Alkali	2.35	2.20	2.73
Soluble silicic acid (in silicic acid)	26.40	28.98	26.75

The following is the result of a chemical analysis of pozzuolanic cement made at the prefectural laboratory of Osaka:

Loss on ignition	10.02	Total alkali	.93
SiO_2 (soluble silica 31.81 per cent)	42.68	MnO_2	.08
Fe_2O_4	16.83	SO_3	Trace.
Al_2O_3	27.52		
CaO	.03		100.00
MgO	.96		

[This leaves 1 per cent unaccounted for.—B. of M.]

TENSILE TESTS.

I have also been furnished the following table showing the results of tensile tests of mixtures containing this material, made at the

Sasebo naval depot, where large quantities have been used in Government work:

Proportions in weight of mixture.					Tensile strength per square inch in English pounds.				
Qualities of water used in experiments.	Portland cement.	Lime.	Pozzuolanic cement.	Sand.	After 4 weeks.	After 3 months.	After 6 months.	After 12 months.	After 24 months.
Sea	7	------	3	20	294	455	553	574	568
	6	------	4	20	284	405	469	432	515
	5	------	5	20	268	364	463	459	500
Sulphate of magnesia	7	------	3	20	278	431	500	511	518
	6	------	4	20	251	385	415	441	464
	5	------	5	20	238	340	414	427	472
Fresh	7	------	3	20	291	376	449	496	471
	6	------	4	20	243	345	426	414	439
	5	------	5	20	205	318	401	370	568
Sea	7	------	3	30	167	325	401	400	423
	6	------	4	30	158	264	300	309	349
	5	------	5	30	147	244	291	291	323
Sulphate of magnesia	7	------	3	30	167	277	296	300	311
	6	------	4	30	138	175	195	177	306
	5	------	5	30	116	170	162	176	265
Fresh	7	------	3	30	161	247	298	306	345
	6	------	4	30	152	256	286	291	331
	5	------	5	30	124	210	249	229	288
Fresh	------	2	8	20	160	312	271	306	------
	------	3	7	20	156	292	295	317	------
	------	2	8	30	122	215	214	214	------
	------	3	7	30	106	234	217	229	------

The following is a report of compression test of Karatsu volcanic ash said to have been made at the Kioto Imperial University:

Description.	Proportion in volume.			Per square inch in pounds.				
	Portland cement.	Volcanic ash.	Sand.	After 1 week.	After 4 weeks.	After 3 months.	After 6 months.	After 1 year.
Fresh water	1	------	3	782.25	1,177.63	1,639.88	1,880.25	2,194.97
Fresh water	.5	0.5	3	498.53	782.25	1,173.33	1,191.87	1,453.57

MIXING DIRECTIONS—MARKET PRICES.

As a result of experience the company recommends the following mixtures, the proportions being in volumes:

For harbor, dock, and general sea work, ash 3, cement 2, sand 10; for water works, drains, river embankments, roads, and tunnels, ash 3, lime 1, cement 1, sand 10; for drains and plastering, ash 4, lime 2, cement 1.5, sand 10; for foundations and brickwork, ash 1, lime 1, sand 30 to 40; for concrete add gravel one and one-half to twice the quantity of sand used. Sand and gravel should be well washed and partially dried before mixing.

The following directions for mixing are given: Place the kneading stand at the desired spot. Have all the materials ready at hand. Have volcanic ash and lime or cement well mixed as desired, and adding sand to it, mix it again, pouring in a proper amount of water; knead it over and over, using sufficient pressure, and covering entirely the outside of sand with volcanic ash, etc., knead them until the different materials lose their own colors and come to one color.

The company prepares the ash, ready for use, packed in straw bags, weighing about 140 pounds each, the prices for which are at Nagasaki 70 sen (35 cents), at Kobe 80 sen (40 cents), and at Yokohama 1 yen (50 cents). In large quantities the prices, free on board ship, per ton of 2,000 pounds, are at Nagasaki and Shimonoseki (Moji) 10.5 yen ($5.23), at Kobe 12 yen ($5.98), at Yokohama 15 yen ($7.47). Freights from Nagasaki and Shimonoseki (Moji) to Seattle and San Francisco per ton of 2,000 pounds are about $4, and from Nagasaki to Manila about $2.50.

TARIFFS.

CHANGES AND REGULATIONS.

AUSTRALIA.

METHOD OF PAYMENT OF DUTY ON ADVERTISING MATTER.

The British Board of Trade has made public the following statement with regard to the method of payment of duty on advertising matter imported into Australia:

The duty on such advertising matter as is now dutiable may be paid by any of the methods specified hereunder:

(*a*) The weight of any one mail may be bulked by the consignor and duty at 6d. per pound remitted in one sum to the deputy postmaster-general of the State to which the catalogues, etc., are addressed.

(*b*) Duty may be paid on total weight of any one mail by consignor's agent in the Commonwealth.

(*c*) By affixing fiscal stamps to each package covering the amount of duty payable on such package.

Duty stamps should be canceled by writing or stamping the date on the face of each before posting.

(*d*) By placing in one package each series of packets for each State, stamping the package with the total amount due on the inclosures instead of stamping the inclosures themselves and address the package to the deputy postmaster-general of the State. The latter will see that the inclosures are duly distributed to the addressees.

Such packages should bear the indorsement "For distribution, customs duty prepaid."

(*e*) If neither of the above methods be followed, duty will be collected in Australia.

The duty on advertising matter is specified as follows in the new Australian tariff:

Articles.	General tariff.	Tariff on goods of United Kingdom.
Paper:		
(*a*) Manufactures of, framed, including the weight of the frames, or unframed, having advertisements thereon, including price lists, n. e. i., trade catalogues, n. e. i., show cards, n. e. i., and all printed or lithographed matter, pictures, n. e. i., and posters of all kinds used or intended to be used for advertising purposes; also all printed bags and cartons; calendars and almanacs, n. e. i. ....per pound..	6d.	6d.
(*aa*) Catalogues, price lists, show cards, or pictures, issued by or referring to goods of any manufacturer or producer not having an established place of business in Australia, and all printed matter and photographs, the property of any public institution and intended for deposit or exhibition thereby..................	[a] Free.	[a] Free.
(*b*) Australian directories, guides, and time-tables............per pound..	6d.	[b] 4d.
(*c*) Printed matter, n. e. i. (except newspapers registered for transmission through the post), being or containing advertisements, including magazines containing advertisements, being more than one-fifth of the printd matter contained within the outside covers..................	[b] Free.	[b] Free.
(*d*) Printing, in rolls or folios known as newspaper, to be used exclusively for newspapers under departmental by-laws, in sizes of not less than 20 inches by 25 inches, or its equivalent..................	[b] Free.	[b] Free.
(*dd*) Printing, n. e. i. (a new sub-item)..................	[b] Free.	[b] Free.

[a] In effect from December 9, 1907.

[b] In effect from December 10, 1907.

BRAZIL.

RENEWAL OF TARIFF CONCESSIONS ON AMERICAN PRODUCTS.

The State Department is in receipt of a cablegram from the American ambassador at Rio de Janeiro, stating that the Brazilian Congress has voted to continue during 1908 the 20 per cent reduction on import duties, which were in force during 1907 in favor of certain products imported from the United States. The products and the duties thereon are as follows:

List of articles entitled to a reduction of 20 per cent of the duty when imported into Brazil from the United States.

Tariff No.		Rate of duty in milreis.[a]	
		General rate.	Rate on American products
Ex. 97.	Flour of wheat.......kilo..	0.025	0.020
Ex. 58.	Milk, condensed.......do....	.500	.400
Ex. 1083.	Manufactures of india rubber, vulcanized or not:		
	Basins and other articles for domestic use, funnels, capsules, and bottles.......kilo..	2.600	2.080
	Canes, whips, and the like.......do....	5.000	4.000
	Tobacco pouches, mouthpieces, and cases for match boxes...do....	4.000	3.200
	Dolls, toys, and the like.......do....	3.500	2.800
	Buttons of all kinds.......do....	4.000	3.200
	Footwear.......do....	3.000	2.400
	Packing for machinery.......do....	1.000	.800
	Combs, rulers, and penholders.......do....	4.000	3.210
	Fans.......each..	3.000	2.400
	Belts, suspenders, garters, cords, braids—		
	Covered with pure silk or with silk mixed with some other material.......kilo..	30.000	24.000
	Covered with any other material.......do....	7.000	5.600
	Dental rubber.......do....	3.200	2.560
	Bracelets, earrings, medallions, and other ornaments.......do....	10.000	8.000
	Stems, tubes, and stalks for flowers.......do....	7.000	5.600
	Combined with tissues of cotton, wool, or linen—		
	In the piece or in patterns.......do....	4.000	3.200
	In articles not specially mentioned.......do....	7.000	5.600
	Combined with tissues of pure or mixed silk—		
	In the piece or in patterns.......do....	7.000	5.600
	In articles not specially mentioned.......do....	15.000	12.000
	Hose, threads, sheets, and plates.......do....	1.200	9.600
	Mats.......do....	1.300	1.040
	Articles not specially mentioned.......per cent ad valorem..	50	40
801	Watches and clocks:		
	Watches—		
	With simple works—		
	Of gold.......each..	10.000	8.000
	Of silver, plain, gilt, or oxidized.......do....	4.000	3.200
	Of copper, plated with gold.......do....	4.000	3.200
	Of other metals.......do....	2.000	1.800
	Chronographs, chronometers, repeaters, stop-watches, and the like—		
	Of gold.......each..	30.000	24.000
	Of silver, plain, gilt, or oxidized.......do....	8.000	6.400
	Of copper, plated with gold.......do....	8.000	6.400
	Of other metals.......do....	4.000	3.200
	Set with precious stones.......per cent ad valorem..	20	16
	Wall clocks—		
	In wooden cases, measuring up to 65 centimeters in length at its longest extension.......each..	5.000	4.000
	In wooden cases, measuring from 65 to 100 centimeters in length.......each..	6.000	4.800
	In wooden cases, measuring more than 100 centimeters..each..	8.000	6.400
	Table clocks—		
	In wooden cases, measuring up to 65 centimeters at the largest extension.......each..	4.000	3.200
	In wooden cases, measuring more than 65 centimeters..each..	6.000	4.800
	In cases of bronze, bronzed or gilt metal, marble, alabaster, etc.......per cent ad valorem..	50	40
	Marine chronometers, suspended.......each..	70.000	56.000

[a] The value of a gold milreis is $0.546; that of a paper milreis, about $0.30. The duty on all the articles given herewith is levied 35 per cent in gold and 65 per cent in paper.

List of articles entitled to a reduction of 20 per cent of the duty when imported into Brazil from the United States—Continued.

Tariff No.		Rate of duty in milreis.	
		General rate.	Rate on American products.
801	Watches and clocks—Continued.		
	Marine, ordinary, suspended and without a pendulum .....each..	3.000	2.400
	Not specially mentioned.......................per cent ad valorem..	50	40
	NOTE 109a.—In measuring the length of the cases of wall and table clocks the ornaments are not to be included.		
Ex. 173	Inks and colors:		
	For marking linen...kilo..	3.000	2.400
	For drawing—		
	In boxes...do....	4.000	3.200
	In shells...do....	30.000	24.000
	In powder, paste, or cakes ....do....	4.000	3.200
	Water colors of all kinds ....do....	.080	.064
	Prepared with oil and the like—		
	For printing, lithographing, house painting, etc ....do....	.100	.080
	Fine, in tubes or cylinders of metal and the like ....do....	4.000	3.200
	NOTE 19a.—In the weight of the boxes containing colors for drawing are included all the accessories contained therein.		
175	Varnishes:		
	Of tar...kilo..	0.500	0.400
	Not specially mentioned...do....	1.000	.800
Ex. 1009	Typewriters, linotypes, and cash registers:		
	With keyboards...each..	30.000	24.000
	Without keyboards..do....	5.000	4.000
Ex. 1037	Ice boxes ....kilo..	.250	.200
965	Pianos:		
	Square or upright..each..	270.000	216.000
	Demigrand...do....	300.000	240.000
	Grand ....do....	430.000	344.000
	Harmonichords ....do....	430.000	344.000
983	Scales:		
	Balances with pans, plain or common—		
	Entirely of iron, or with the beam of this metal and the pans of wood..kilo..	1.000	.800
	Of copper or its alloys...do....	2.000	1.600
	Platform scales of iron, of all sizes:		
	With a capacity of up to 100 kilos ....each..	26.000	20.800
	With a capacity of from 100 to 200 kilos...............do....	40.000	32.000
	With a capacity of from 200 to 500 kilos..................do....	60.000	48.000
	With a capacity of from 500 to 1,000 kilos.................do....	88.000	70.400
	With a capacity of from 1,000 to 2,000 kilos ....do....	146.000	116.800
	With a capacity of from 2,000 to 5,000 kilos ....do....	160.000	128.000
	With a capacity of more than 5,000 kilos...................do....	820.000	356.000
	Platform scales with a platform of wood, with or without iron frames, and steelyards, pay only half of the duty on platform scales entirely of iron.		
	Counter scales of whatever form, with ba or pedestal of any kind—		
	Up to 40 centimeters in length.............................each..	6.000	4.800
	From 40 to 60 centimeters in length........................do....	12.000	9.600
	From 60 to 80 centimeters in length........................do....	27.000	21.600
	More than 80 centimeters in length.........................do....	40.000	32.000
	Assay scales:		
	Common, with pendulum or column, with or without cases ....kilo..	7.000	5.600
	Of precision, or any other kind..........per cent ad valorem..	50	40
	Hydrostatic, for use in physics.................................do....	50	40
	Automatic, for weighing coffee, grain, etc...................do....	15	12
	Spring scales—		
	With tubes, suspension, with or without pans............kilo..	2.800	2.240
	With stands of iron or marble, with only one pan.......do....	1.200	0.960
	Not specially mentioned.....................per cent ad valorem..	50	40
Ex. 1008	Wind mills...do....	15	12

COLOMBIA.

NO ADMISSION OF MEATS TREATED WITH CERTAIN PRESERVATIVES.

The following letter of C. M. Sarria, the Colombian consul-general at New York, published in the New York Journal of Commerce, January 9, should be of interest to American meat exporters:

Allow me to inform you, for the knowledge of the American exporters doing business with the Republic of Colombia, that in accordance with a resolution recently passed by the board of health the importation into said Republic of all kinds of meats, for the preservation of which antiseptics are used, has been prohibited. Meats for consumption in Colombia may be preserved by means of chloride of sodium, nitrate of potash, heat (Appert modified process), or refrigeration.

For which reason this consulate has been advised not to certify any invoice on which meats are specified unless the same is accompanied by a bona fide certificate stating clearly that no antiseptics have been used and that the meats have been prepared for export as required by law.

COSTA RICA.

DUTY-FREE ADMISSION OF BUILDING MATERIALS.

Consul Chester Donaldson reports from Port Limon, December 12, 1907, that the Government of Costa Rica has removed the import duty on all kinds of building materials for those who sustained losses by the destructive fire of September 24, 1907. Commenting on the situation, the consul says:

The part of the city destroyed by that fire included nearly three blocks of the business part, starting on the western side of the Market Park, but did not come east of that point to where all the finest part of the city lies, and where all the first-class business houses, except one, were located.

Already several fine brick, concrete, and iron structures are being erected in the places where the cheap old wood buildings were burned. Brick is manufactured in this country, but all the cement and most of the lumber are imported. Cement, to keep well in this moist climate, should be put up in metallic drums.

FRANCE.

NEW COMMERCIAL AGREEMENT WITH THE UNITED STATES.

The following agreement, signed by the plenipotentiaries of the United States and France, went into effect February 1, 1908:

The Government of the United States of America and the Government of the French Republic, considering it appropriate to supplement by a new additional agreement the Commercial Agreements signed between the two countries at Washington on May 28, 1898, and August 20, 1902, respectively, have appointed as their plenipotentiaries, to wit:

The President of the United States of America, the Honorable Elihu Root, Secretary of State of the United States, and the President of the French Republic, His Excellency J. J. Jusserand, Ambassador of the French Republic to the United States of America, who, after an exchange of their respective full powers, found to be in due and proper form, have agreed upon the following articles:

ARTICLE I. It is agreed, on the part of the French Government, that the application of the duties of the general tariff to coffee, cacao, chocolate, vanilla, and other food products known in the French tariff law as "denrées coloniales de consommation," except sugar and its by-products and tobacco, products of the United States, including Porto Rico, shall be conditionally suspended and that the said products shall be admitted into France and Algeria at the rates of the minimum tariff or at the lowest rates applied to the like products of any other foreign origin.

In addition, mineral oils from the United States and coming under the decree of July 7, 1893, shall upon entry into France and Algeria enjoy the benefits of the lowest rates of duty.

But it is expressly understood that these concessions may be withdrawn in the discretion of the President of the French Republic whenever additional duties beyond those now existing and which may be deemed by him unjust to the commerce of France shall be imposed by the United States on products of France.

ART. II. It is reciprocally agreed on the part of the United States, in accordance with the provisions of section 3 of the United States tariff act of 1897, that the rates of duty heretofore imposed and collected under the said act on champagne and all other French sparkling wines upon entering the United States and the island of Porto Rico shall be conditionally suspended and, instead, the following duties shall be imposed and collected, to wit:

On champagne and all other sparkling wines, in bottles containing not more than 1 quart and more than 1 pint, $6 per dozen; containing not more than 1 pint each and more than one-half pint, $3 per dozen; containing one-half pint each or less, $1.50 per dozen; in bottles or other vessels containing more than 1 quart each, in addition to $6 per dozen bottles on the quantities in excess of 1 quart, at the rate of $1.90 per gallon.

But it is expressly understood that this concession may be withdrawn in the discretion of the President of the United States whenever additional duties beyond those now existing and which may be deemed by him unjust to the commerce of the United States shall be imposed by France on products of the United States.

ART. III. It is further agreed that, inasmuch as complaints have arisen in both countries regarding the effect of the regulations in force in the respective countries affecting the admission of each other's products and to the end that if there be in the regulations of either country any provisions which unnecessarily restrict trade such provisions may be modified and the cause of complaint removed, a commission of three experts shall be appointed by the Government of the United States and a like commission of three experts shall be appointed by the Government of France. Such commissions shall, in conference each with the other, inquire into and ascertain fully the existing conditions in each country as bearing upon the necessity of the regulations affecting the trade of the other country and as bearing upon the practicability of reciprocal tariff concessions. Each commission shall report to its own Government thereon.

It is further agreed that upon the basis of the report so made the two governments shall enter upon an exchange of views to the end that if possible all cause of complaint in their respective regulations regarding the admission of any of the products of either country to the other may be removed.

ART. IV. This additional agreement shall take effect and be in force on and after the 1st day of February, 1908, and shall continue in force so long as the agreements signed on May 28, 1898, and August 20, 1902, shall remain in force.

Done in duplicate in English and French texts at Washington, this 28th day of January, 1908.

ELIHU ROOT. [SEAL.]
JUSSERAND. [SEAL.]

In addition to the articles enumerated in Article I of foregoing agreement the following products of the United States are admitted at the minimum rates of duty of the French tariff indicated below under the agreement of 1898 (1 franc=19.3 cents United States currency. 1 kilo=2.2 pounds):

French tariff No.	Articles.	Rate of duty per 100 kilos.	French tariff No.	Articles.	Rate of duty per 100 kilos.
		Francs.			*Francs.*
19	Canned meats	15	128	Common woods, logs	0.65
84	Table fruits, fresh:			Sawed or squared timber 80 mm. or more in thickness	1
	Lemons, oranges, cedrats and their varieties not mentioned	5		Squared or sawed lumber exceeding 35 mm. and less than 80 mm. in thickness	1.25
	Mandarin oranges	10		Wood sawed 35 mm. or less in thickness	1.75
	Common table grapes	8	129	Paving blocks	1.75
	Apples and pears—		130	Staves	0.75
	For the table	2	160	Hops	30
	For cider and perry	1.50	174ter	Apples and pears crushed, or cut and dried	1.50
	Other fruits except hothouse grapes and fruits	8		Manufactured and prepared pork meats	50
85	Fruits dried or pressed (excluding raisins):			Lard and its compounds	25
	Apples and pears—				
	For the table	10			
	For cider and perry	4			
	Prunes	10			
	Other fruits	5			

MARTINIQUE.

INCREASE OF DUTY ON DRY OR UNPREPARED TOBACCO.

Consul Chester W. Martin reports from Martinique, under date of December 16, 1907, that the colony of Martinique has increased the duty on yellow or dry tobacco leaves from 2.05 francs ($0.39) to 3.35 francs ($0.638) per kilo (2.2 pounds), making the present duty practically 29 cents per pound. The duty on the leaves prepared for smoking, or black tobacco, as it is called, remains the same, 2.05 francs per kilo.

MEXICO.

DUTY ON SUGAR RAISED ONE HUNDRED PER CENT.

Consul-General A. L. M. Gottschalk reports from Mexico City that a Presidential decree became effective at midnight on February 15 which has increased the former duty on common sugar, sugar candy, and refined sugar of all kinds of 2½ Mexican pesos ($1.24½ United States currency) per hundred kilos (220 pounds), gross weight, to 5 centavos ($0.02½) upon each kilo of gross weight. As will appear from the following statement of the consul-general, the increase of duty on sugar will affect almost entirely exports from the United States, which contribute 87 per cent of all the sugar imported into Mexico.

The increase of duty referred to is evidently intended to protect the domestic industry, in which there is considerable capital, both Mexican and foreign, invested. The imports of sugar into Mexico of all the kinds referred to in the tariff for the first five months of 1907 amounted to $90,162 United States currency, of which $78,472 was American.

NICARAGUA.

INCREASE IN CUSTOMS DUTIES ON ALL PRODUCTS.

Consul F. M. Ryder, of San Juan del Norte, transmits an executive decree, issued November 19, 1907, to the collectors of customs of Nicaragua, which reads in part as follows:

ARTICLE 1. The import duties are hereby increased 10 per cent upon the total amount of the same, as computed at the present time.

ART. 2. The duties on articles ennmerated below have been modified as follows:

Articles.	Pesos per kilo.[a]	
	Former rate.	New rate.
Turpentine, spirits of	0.10	0.20
Barbed wire fencing and staples for same	.01	.02
Chinaware for table use	.05	.10
Blue, ultramarine, in powder or balls	.15	.20
Blacking, paste or liquid	.10	.20
Hinges, bolts, knobs, hooks, padlocks, handles, and other articles for furniture, doors, windows, and similar uses	.20	.25
Cable or tackle of aloe, henequen, and other vegetable fibers	.22	.25
Meats of all kinds, preserved in cans	.30	.40
Cassimeres, broadcloths, and similar woven cloths for men's clothing, with or without silk threads or stripes	3.00	4.00
Champagne and similar wines	.60	1.00
Beer of all kinds	.12	.15
Skyrockets and firecrackers, ordinary or Chinese	.20	.30
Colors in powder, such as white lead, red lead, litharge, and others of mineral origin, not otherwise specified	.10	.20
Colors of all kinds, not otherwise specified, prepared in oil	.10	.20
Candies, confectionery, and sweets in lozenges	.40	.50
Cement, Roman or Portland	.02	.03
Bags or sacks of hemp, jute, pita, and henequen	.08	.12
Patent medicines, not otherwise specified	1.00	1.50
Cotton yarn in skeins, raw, bleached	.15	.25
Cotton yarn in skeins, colored	.20	
Perfumery of all kinds, not otherwise specified	.40	.80
Petroleum (kerosene) or refined mineral oils	.04	.10
Candles, sperm or stearin	.20	.30

[a] 1 peso=48 cents United States currency for customs purposes; 1 kilo=2⅕ pounds.

ART. 3. The rates fixed by the preceding article include the special duties established exclusively for the maintenance of public instruction imposed on certain mechandise enumerated in the law decreed on May 19, 1905.

ART. 4. This decree will become operative on the 20th of December next; but such shipments of merchandise as have been made prior to the 20th of the current month (November), and which fact must be proven by exhibiting the respective bills of lading, will not be affected by it.

Commenting on the above decree, Consul Ryder says:

The increased tariff in many instances is a radical one, seriously affecting imports from the United States. Many of the articles enumerated in the list have been subjected to an advance of from 100 to 150 per cent over the present rate. Portland cement will be dutiable at $2.54 (gold) per barrel of 180 kilos. Under the present revision kerosene has been increased 150 per cent, sperm candles 50 per cent, canned meats 33⅓ per cent, beer of all kinds 25 per cent, hemp and jute bags 50 per cent, patent medicines 50 per cent, perfumery 100 per cent, white lead and paint colors 100 per cent, and cassimeres and similar cloths 25 per cent over the present rate.

Taking the latest published Government statistics as a basis the increased duties on barbed wire, cement, canned meats, beer, and kerosene should increase the revenue of the Government about 1,000,000 pesos per annum, providing the importations do not fall off to any great extent. It is a singular coincidence that nearly all of the importations named are of American manufacture, but the preamble of the decree foreshadows a complete revision of the tariff at no distant period. The law of May 19, 1905 (creating a revenue for the support of public instruction), is rescinded by the foregoing decree in so far only as the articles enumerated are affected by the same.

NEW WHARF CHARGES IN ADDITION TO CUSTOMS DUTIES.

Dating from December 1, 1907, a "wharf tax" is to be collected on all passengers, baggage, and freight arriving or departing from the custom-house wharf at the "bluff" in Bluefields; bananas and government mail are the only exceptions to the following tariff, which is given in soles, now quoted at 42 cents gold:

Package weighing 100 kilos or less	0.12
Each additional 100 kilos or fraction thereof	.12
Lumber, per 1,000 feet	1.50
Each passenger	.25
Baggage, each piece	.20
Children under 12 years	Free.

The reason given for levying the above tax is to procure funds for the purpose of repairing the wharf, which has been in a dangerous condition for a long time.

VENEZUELA.

INCREASE OF CUSTOMS DUTIES ON CERTAIN PRODUCTS.

Minister W. W. Russell, at Caracas, Venezuela, transmits an Executive decree, dated November 14, 1907, by which duties on certain articles are increased as follows:

	Bolivars per kilo.[a]	
	Old rate.	New rate.
Ten per cent increase on the following articles:		
Corn in the grain	0.10	0.11
Rice in the grain	.10	.11
Wheat in the grain	.10	.11
Caraotas (Venezuelan beans)	.25	.275
Frijoles (kidney beans)	.25	.275
Lentils	.25	.275
String beans	.25	.275
Pork lard	.25	.275
Butter	.25	.275
Beer	.25	.275
Twenty-five per cent increase on the following articles:		
Bottles made of ordinary light or dark glass and used for storing liquids	.10	.125
Plain glass or crystals, without quicksilver, white or colored	.25	.315
Potatoes	.25	.315
Saddle trees or frames for saddles	.75	.937
Straw hats without trimming	2.50	3.125
Brown paper and paper made from wood pulp	.10	.125

[a] 1 bolivar=19.3 cents United States currency; 1 kilo=2⅕ pounds.

REDUCED IMPORT DUTIES ON PIANOLAS.

Consul E. H. Plumacher reports, from Maracaibo, under date of October 31, 1907, that, in accordance with the decree of October 24, 1907, pianolas, formerly admitted under class 5 of the Venezuelan tariff at a duty of 1.25 bolivars per kilo (24 cents per 2.2 pounds), are to be admitted under class 4, at a duty of 0.75 bolivar per kilo (14.5 cents per 2.2 pounds).

ZANZIBAR.

INCREASE OF CUSTOMS DUTIES ON ALL IMPORTS.

The State Department is in receipt of a cablegram from Consul Arnold at Zanzibar to the effect that the import duty has been increased 2½ per cent dating from January 1. The duty hitherto was 5 per cent ad valorem on nearly all imports except alcoholic beverages, explosives, etc.

EDUCATION.

MODERN ADVANCEMENT.

FRANCE.

A COMPLETE TECHNICAL SCHOOL MAINTAINED BY THE GOVERNMENT.

Consul Chapman Coleman, of Roubaix, furnishes the following report respecting the École Nationale Professionelle at Armentières, maintained by the French Government, and having for its purpose the preparation of young men for conducting industrial establishments:

The importance of the preparatory instruction afforded by the school for weaving, established in the neighboring city of Armentières, will be appreciated when the great importance of the textile industry in this district is understood—an industry which has contributed largely in making the Department of the North the richest in France, with the single exception of the Department of Seine et Oise, in which Paris is situated. It would seem that a useful purpose would be promoted in affording to American manufacturers and dealers a more extended knowledge of the educational methods pursued at the Armentières school, in preparation for the conduct of the industry whose products are exported in great quantities to foreign countries, including the United States.

The manufactures with which instruction at this school is concerned embrace, among many others, the following articles: Cashmeres, serges, poplins, cheviots, amazons, armures, checks, brocades, woolen, silk, satin, gold and silver threaded and other domestics, fancies and high novelties in silk and mixed textiles, cotton and flax fabrics, etc. The thorough instruction in weaving that is given requires a two years' course of study. It comprises a theoretical and a practical course, which, it is claimed, supplement each other admirably.

This instruction is intended for young men ambitious to assume the conduct of manufacturing establishments or to find employment as foremen.

This dual scheme of instruction is arranged as follows:

THEORETICAL AND WEAVING COURSES.

The principal features under the theoretical course of instruction are the following: (1) The study of the materials employed in the textile industry; (2) the microscopical and chemical examination of those materials; (3) summarized instruction in converting by different procedures textile materials into yarns; (4) the various tests applicable to yarns; (5) conditioning and removal of fatty matter.

In the weaving course the studies are: (1) Constitution of fabrics, general considerations; (2) summarized study of products of weaving; (3) study of the elements of armure mechanism; (4) study of the different methods of harnessing (equipping) looms; calculation as to blades and combs; (5) products of fundamental armures; (6) combination of different armures, striped, checked, etc.; (7) double-faced fabrics, draperies, etc.; (8) double-cloth fabrics, bag stitching; (9) multiple fabrics; (10) divers fabrics, gunipured; (11) plaited fabrics; (12) striped fabrics; (13) spotted fabrics; (14) study of armure mechanism; (15) fancy fabrics; employment of the Jacquard mechanism, designing, reading, and card cutting, different procedures; (16) fabrics fashioned by process of interruptions of armure mechanism; brillantés, manufacture by blades and armure mechanism; by Jacquard looms; reed and warp mounting; reduction of cords; (17) selection of designs; (18) fabrics manufactured by combined mechanisms; varied damask work; weaving by reeds and warps; reducing number of cords; table linen, napkins, etc.; (19) fabrics of several warps; reps for upholstery; plain, fancy, or double-faced; piqués; employment of a second weft, figured by the warp; (20) fabrics woven with several wefts; tapestry; weaving by hand with low and high warp; cashmere shawls and French cashmere; figured and striped fabrics; (21) the various velvets, velvetine, and corduroys, double-face, hand-cut; velvets, warping; (22) fabrics with undulating yarns; gauzes, combination of gauzes with other armures; fancy gauzes; execution by cup blades, or by Jacquard mechanism; (23) instruction in tulles, guipures, and laces; knitting; cost price and tests of fabrics.

(1) Bobbin winders, with vertical or horizontal spindles; eccentric tracing; speed; productions; (2) hand warp winding; mechanical recoil or thread-breaking, by sections; (3) stretching and sizing; preparation of sizes; (4) cop winders of different types; (5) weaving looms; with armure mechanism; with Jacquard vertical and horizontal batteries; combs, fixed or movable; loom regulating; (6) looms with multiple shuttles; superimposed shuttle boxes; revolving shuttle boxes; pick-and-pick movement; (7) finishing fabrics; washing, sizing, and dyeing; blades, drums, shearing, scraping machines, fulling, calendering, presses, etc.

MECHANICAL WEAVING AND PRACTICAL INSTRUCTION.

To the practical instruction, which forms the natural complement to theory, the mornings of the pupils are devoted. They first practice with the numerous looms and samples owned by the school. They learn to mount (put together), unaided, a simple or hand loom; they must wind and adjust the warp on the rollers and pass the same through the blades and combs. They then undertake the regulation of the loom according to the nature of the fabrics to be made. Progressively they learn to mount more and more complicated looms, succeeding, in due course, in reproducing the greater number of the fabrics studied in the theoretical course.

Thereupon follows the work to be done on the mechanical looms. For this purpose the school possesses twelve such looms of varied and most perfected types, among them three Northrops, one Hattersly, and one Dawson loom, as also the preparatory or supplementary machines. The pupils thus learn to adjust on the looms a great variety of textile materials and to convert them into fabrics. Finally, the pupils are brought to the point of essaying, unaided, the complete manufacture of yarns and fabrics, as also of determining the cost price of every kind of fabric.

The Armentières school is said to be the only one in France in which the method of instruction that has been described has attained full development and in which all details have been so happily organized, and it is stated that its methods of instruction are being constantly perfected and its capacity for usefulness enlarged; and the fact that full recognition is given to the high value of its work in a region in which the industry it subserves is of such great importance will be readily understood.

IRELAND.

OPENING OF A NEW MUNICIPAL TECHNICAL INSTITUTE IN BELFAST.

Consul Samuel S. Knabenshue furnishes the following information concerning the Municipal Institute recently opened in Belfast for the practical education of the young men of Ireland in the arts, trades, and industries:

The city of Belfast in December, 1907, formally opened the splendid building erected to accommodate the Municipal Technical Institute. This educational institution was rendered possible through an act of Parliament. Under it a local tax of a penny in the pound (2 cents per $4.86) valuation is assessed for the institute, which produces over £5,000 annually, and the department of agriculture and technical instruction for Ireland makes a grant proportioned to the population of the city, which amounts to about £11,000 per year. Minor sources of income bring the total to about £23,000 ($111,930) per annum. Of this, £1,350 is paid annually as ground rent of the site of the building, and £4,400 to meet the building loan sinking fund; leaving about £16,000 or $80,000 for the maintenance of the institute.

The building occupies a very advantageous site in the heart of the city, contains 128 rooms, with an area for the five floors of 133,862 square feet. The total cost of the building was $500,000.

ATTITUDE OF LABOR UNIONS AND EMPLOYERS—TECHNICAL INSTRUCTION.

The labor unions and other trade organizations have taken an enlightened view of the institute's operations, and have encouraged apprentices and young journeymen to avail themselves of the facilities provided, especially in the evening classes. Much encouragement has been given by employers, a number of whom pay all or a part of the tuition fees of their employees. All such are furnished with monthly reports, showing the progress of each employee paid for.

There are thirteen departments in the institute, all fully prepared with the necessary appliances for the technical education of the pupils in the several branches of study, viz: (1) A day technical course for mechanical engineering, electrical engineering, the textile industries, and pure and applied chemistry; (2) trade preparatory school for boys intended for industrial occupations; (3) mathemathics, for those who desire to apply the science to help them in technical work and for those who desire to study the science without reference to its application; (4) mechanical engineering; (5) physics and electrical engineering, with ten class rooms; (6) a physical laboratory, with apparatus for experimentation in physics, light, and heat; (7) an elementary laboratory illustrating the theory of electricity and magnetism; (8) a building-trades department for wood working, painting and decorating, and a complete plumber's shop; (9) textile industrial department for handling and spinning flax, with a weaving section containing hand and power looms; (10) chemistry department, with instructions by lectures and by laboratory on bleaching, dyeing, and analyzation of waters and dyeing materials; (11) commercial department, with accommodation for the simultaneous instruction of 500 pupils; English, French, German, and Spanish, typewriting, shorthand, bookkeeping, commercial and economical law are taught; (12) a school of art occupies the whole upper floor of the institute; (13) women's work department, teaching cookery, dressmaking, millinery, laundry work, and lace making. [Sixteen illustrations of the institute are on file in the Bureau of Manufactures.]

CHINA.

TWELVE YEARS COURSE WILL BE REQUIRED OF MEDICAL STUDENTS.

Consul W. T. Gracey writes from Tsingtau that it is reported that according to the wishes of Viceroy Chang Chitung a college of medicine is about to be opened at the Chinese capital. Preliminary plans include the following measures:

As the school is to afford the highest medical training for the young men of the entire Empire, it shall not employ men on its faculty who do not come with the highest possible recommendations. In accordance with Chinese ideas the course is to be divided into three years of old Chinese medical practice and six years of modern western training. At the end of these nine years there is to be a thorough examination and then three more years of study and trial practice shall be demanded before the students shall be qualified doctors. This examination must also be passed by people who are now practicing on certificates from existing medical schools. No one who does not hold a literary rank of a fixed grade (Chü yen) shall be allowed to take these examinations, regardless of where he studied. Compensation to be paid by the students who will study at this new school is to be fixed at a future meeting of men appointed to have charge of the institute.

CHINESE EDUCATIONAL NOTES.

Consul-General James W. Ragsdale, of Tientsin, supplies the following items concerning modern education in China:

For the purpose of promoting the forestry industry in south Manchuria, the Chinese officials have engaged a Japanese expert from Tokyo to act as head master for the proposed school of forests at Mukden for a term of four years, with two Chinese gentlemen as his assistants; but, owing to the lack of funds, the school has not yet been opened.

Viceroy Yang is going to open a yi-hsueh kuan or school of foreign languages in the city of Tientsin for training translators and interpreters for Government employment in north China. The school will be opened early in 1908 for teaching Russian, German, and French, and diplomatic matters for a period of from three to five years.

Chang Chih-tung has issued instructions to all the Chinese ministers abroad to do their utmost to secure a number of foreign professors, each one for a special subject. They must be men of good standing in their own countries, and expense is not to be considered.

Chang Chih-tung, the comptroller-general of the board of education, has revised the regulations of girls' schools and limited the ages of girls who are to be allowed in the schools to 15 years, above which no girl will be admitted.

The result of the examination of graduates abroad by the board of education at Peking has been published. There are 7 best, 17 good, and 14 moderate. Of the 7 best, 5 were educated in America.

CHILE.

GOVERNMENT TO ENTERTAIN CONGRESS OF SCIENTISTS THIS YEAR.

The Department of State transmits to the Department of Commerce and Labor a copy of the regulations and programme of the Fourth Scientific Congress, which will convene at Santiago on December 1, 1908, under the auspices of the Government of Chile. A copy of the regulations is filed for reference at the Bureau of Manufactures, from which the following is gleaned:

All communications or scientific works to be presented to the congress must be received before September 30, 1908. Authors who may be unable to forward their communications in time must send the titles to the general secretary's office before that date.

The following persons shall be considered members of the congress: All official delegates from cooperating countries; delegates from universities, institutes, and scientific societies and organizations, both Chilean and from other American countries; all persons present invited by the executive committee and proposed by the respective subcommittees or by the committees of concurring countries; and adherents who pay the fee of 1 pound sterling ($4.86) and are accepted by the executive committee.

The subcommittees shall correspond to an equal number of sections of the congress, and shall be as follows: Mathematics, pure and applied; physical sciences; natural sciences; engineering; medical science and hygiene; anthropological sciences; science of law and sociology; science of pedagogy, and agriculture and zootechny.

The committee in the United States consists of Prof. Leo S. Rowe, of the University of Pennsylvania, and Prof. William R. Shepherd, of Columbia University, besides representatives from the universities of California, Chicago, Cornell, George Washington, Harvard, Illinois, Johns Hopkins, Michigan, Minnesota, Princeton, Texas, Wisconsin, and Yale.

GERMANY.

UNIFICATION OF THE VARIOUS SHORTHAND SYSTEMS.

Consul Thomas H. Norton reports from Chemnitz that progress is steadily made toward the unification of German stenographic systems. The leading schools of stenography have appointed a committee of twenty-three experts to report upon a system combining the best points in the present systems and calculated to render the most effective service in the future. The German Government shows a marked desire to further the movement and has urged the committee to expedite its work.

EXPOSITIONS.

INTERNATIONAL DISPLAYS.

JAPAN.

ADVISABILITY OF AMERICAN PREPARATIONS THEREFOR WELL IN ADVANCE.

In transmitting a copy of the general regulations for the international exhibition to be held in Japan in 1912, received from the American ambassador at Tokyo, the Secretary of State suggests that the attention of American manufacturers be called thereto, with a view to their being prepared well in advance for participation therein. The Secretary of State quotes the following extracts from a report on the subject by Consul R. J. Thompson, of Hanover, Germany:

The phenomenal growth of the German commercial world, her manufacturing and export business, and more particularly the latter, date in large degree from the year 1893, when she surprised the world by her exhibits in manufactures and liberal arts, machinery, transportation, etc., at the World's Columbian Exposition at Chicago.

A proper realization of the commercial and ethical advantages accruing to Germany following that exhibition led to her being one of the first and most earnest participants in the Universal Exposition at Paris in 1900. (Germany had made her appropriation and was engaged in the preparation of her exhibits for this exposition at least a year and a half in advance of the United States.) The same spirit and early action were shown in connection with the Louisiana Purchase Exposition at St. Louis, and in which her exhibits were superior to all competing foreign countries.

ADVANTAGES AND VALUE OF EARLY ACTION.

It may be rightly inferred that Germany's experience in world's fairs has demonstrated the advantage and value of early action in the extensive and elaborate preparation of exhibits, especially advisable in a world's contest or bid for the recognition and trade of the Orient, such as is likely to take place at Tokyo in 1912.

Inasmuch as the United States will undoubtedly take part in this world's fair in Japan, and as great study and preparation for what should be the nearest to perfect, as well as the most comprehensive and complete exhibit possible for American art and industry to produce, should be made.

It may be stated, too, that it would seem to be obvious that advantageous results might be obtained by the dispatch of a special commissioner for the proper reservations of space for exhibits and grounds for buildings, and for the further purpose of investigation of the Oriental markets, and of those already developing industrial and commercial tendencies and trade opportunities which may appeal to and be especially met by American manufacturing and industrial interests in the future.

GENERAL REGULATIONS.

The official Japanese announcement follows:

The general regulations which have heretofore been adopted for the grand exhibition are as follows: (The location of different exhibition buildings and allotment of space, as well as the rules and regulations for exhibits, will be communicated as soon as they are finally decided upon.) The grand exhibition of Japan will be opened on April 1, 1912, and will be closed on October 31.

The location of the exhibition will be the Aoyama Parade Ground in the city of Tokyo, first, second, and third blocks of Kitamachi, Aoyama of the said city, about three-quarters of the imperial estate of Yoyogi, Toyotama District, Tokyo Prefecture, and that portion of the lot, connecting the said parade ground and the imperial estate, along which the formerly called Kōbu Railway runs. The entire site of the exhibition will comprise about 292 acres (about 350,000 tsubos).

All foreign governments and peoples are invited to participate in this exhibition. For the installment of foreign exhibits, belonging to the five different departments of education, science, machinery, electricity, and manufactured goods, space will be allotted in the exhibition buildings erected by the administration office of the grand exhibition of Japan. For exhibits other than those designated, any nation may erect a separate building at its own expense. No charge will be made for space allotted for such building.

Any nation may, if it so desires, exhibit articles belonging to the aforesaid five departments and also other articles not coming under these headings in the building erected by such nation at its own expense. No charge will be made for space allotted for such building.

All articles which shall be imported from foreign countries for the sole purpose of exhibition, and not used for commercial purposes in this country, and all materials for the buildings of foreign governments, or special exhibition buildings and decorations thereof, will be admitted free of duty. It is proposed to make a special arrangement concerning articles which shall be imported from foreign countries for sale at bazaars, or things intended for amusement and shows which are liable to customs duty, and a bill to that effect will be introduced in the next session of the Diet.

It is also intended to afford special protection to all inventions, designs, models of utility and trade marks of foreign exhibits, and a bill to that effect will be introduced in the next session of the Diet.

BELGIUM.

PLANS FOR WORLD'S FAIR AT BRUSSELS—AMERICAN REPRESENTATION.

Baron Moncheur, the Belgian minister at Washington, transmits copies of a circular, containing information concerning the general organization of the Universal and International Exposition to be held at Brussels during the year 1910, beginning in April and remaining open for at least six months.

It is further stated that the executive committee has adopted the principle of division into national sections; that is to say, the grouping of the works and produce of each country in combination with the general system of classification.

It is believed that the Belgian exposition of 1910 will afford an excellent opportunity for American producers to place their products advantageously before the world. Every international exposition in which American goods are not adequately represented has a tendency to curtail the sales of those goods in foreign markets by increasing the sales of like goods produced by other countries when the latter are properly represented in the exposition. This is true particularly in the case of manufactured articles, but it is true also, to some extent, in the case of exports of meat products and fine cereals. For example, Argentina's exports of meat products to Europe have increased materially within the past two years, due partly to the advertisement they receive at the expositions. South American cereals are also steadily becoming better known in Europe.

It is believed that the failure of American manufacturing interests to participate in the recent exhibition at Milan has been prejudicial to American commercial interests in Italy. There is a question, too, of the maintenance of national prestige, which has often an influence commercially more far-reaching than is generally understood.

The value of total exports of American merchandise to Belgium in the last year was about $50,000,000, and almost every line of manufacturing industry was represented in those exports.

Assurance is given that the necessary measures will be taken for protecting in Belgium patentable inventions, industrial designs or models, and manufacturing or trade-marks appearing at the exhibition.

An American engineer and metallurgist located at Antwerp also calls attention to the importance of the Belgian International Exposition to the business interests of the United States. He writes to the Bureau of Manufactures: " It is the intention to create an exhibition which will surpass any which has been held in Europe. It will be a golden opportunity for Americans to exhibit their products and secure a largely increased foreign trade. American machines and machine tools are especially highly appreciated in Europe, so much so that whenever they are exposed where they can be examined by the public great enthusiasm is manifested, and exhibitors have obtained high awards and have found markets for their products."

EXPOSITION OF FLOWERS AT GHENT.

Consul W. P. Atwell advises that the centennial exposition of the " Societe Royale d'Agriculture et de Botanique " of Ghent, Belgium, will be held in the gardens of the Casino from April 23 to May 3, 1908. This exposition is international and devoted exclusively to plants, flowers, seeds, and in general to everything pertaining to the horticultural trade. This exposition is held regularly every four years, and the coming one being the centennial, the display promises to be very interesting.

ITALY.

AMERICAN AGRICULTURAL MACHINERY EXHIBITS IN SICILY.

Vice-Consul Jacob Ritter, writing under date of December 12, states that after being open to the public for about seven months the agricultural exposition in Catania, containing especially Sicilian exhibits, and the first of its kind ever held in that Italian city, had just closed its doors. He adds:

All those interested in the exposition are agreed that the affair has been very successful and that its chief object, the radical improvement in knowledge among the Sicilian peasants of modern agricultural methods, has been in great measure achieved.

About 300,000 visitors have attended the exposition, and it has been d with great satisfaction that just the class which it was desired to reach has been much in evidence and has shown a gratifying interest in seeking to understand, and a wish to adopt, the improved agricultural machinery. When it is remembered that agriculture in Sicily is still carried on, in most cases, in the most primitive style, the wonder is that the country is able to produce such abundant crops.

The first important exhibition in Sicily was held several years ago in Palermo and, according to tentative plans now being formulated, it is proposed to hold the next one in Messina. The Catania exposition, in many respects even more important than the one in Palermo, was auspiciously opened by the King of Italy last April. It has been visited by many of the ministers and high state officials and has excited the greatest interest among all classes of the public. Government support was given to the enterprise by a cash contribution of about $40,000, and by permitting the issuance of special tickets on the state railways in Sicily, whereby the purchaser by buying books of coupons was enabled to travel for only 25 per cent of the regular fare. Each book cost 10 lire ($1.93) and contained 8 coupons, besides 2 tickets of admission to the Catania exposition, and was available in securing the reduced fare all over Sicily. Special rates were also given purchasers of coupon books for excursion trips to Naples. The entire proceeds from the sale of these coupon books were devoted to the use of the exposition. It is worthy of mention that since the inauguration of the reduced rates, statistics show a great net gain for the railways.

Although prominence was given to exhibits from Sicily itself, yet many importations, especially of agricultural machinery, were shown. Many implements of American manufacture were sent here by importers from northern Italy. In this connection it was noticed that, although vessels of several steamship lines make regular stops at Palermo and Messina en route to and from the United States, no firms in Sicily make direct importations of American machinery, but only act as agents for importing firms generally in northern Italy.

The total value of the exhibits of all kinds was estimated at about $250,000.

FRANCE.

CALAIS INVITES AMERICAN PARTICIPATION IN A GREAT EXHIBITION.

Consul J. B. Milner reports that he recently received notice from P. Meriat, director general, of the holding of an international exposition at Calais; a translation of the communication reads:

> The municipal council of Calais has voted the installation in this city of a great international exposition, which will last from April 19, 1908, to the first Sunday of next October, and will include all branches of industry, commerce, agriculture, science, and fine arts. It is directly placed under the high patronage of the French Government, the municipality, and the chamber of commerce of Calais.
>
> By reason of the exceptional situation, so near to England and Belgium, Calais is the starting and landing place of daily passenger boats, which assures to Calais the presence of a large number of visitors. Besides its privileged geographical situation and its ever flourishing commerce, Calais boasts of a renowned industry, which in later years has gained such an importance that it is for us the firmest guaranty of a pronounced success.
>
> We take the liberty of calling your attention to this really exceptional situation, and at the same time of requesting you to inform us if you desire to figure among our exhibitors. We hope that such will be the case, and we

forward you, under the present cover, a form of request for admission, holding ourselves at your disposition to forward you on request all necessary information.

This will present a good opportunity to show American-made tools, agricultural implements, labor-saving devices, and up-to-date commodities. It will also be an opportunity for sections of the United States which desire to induce desirable immigrants to settle in their territory. Already a number of governments have signified their intention to participate in the exposition, and Director Meriat recently called at this consulate and requested the participation of the American Government. [A plan and a copy of the rules and regulations of the exposition are filed with the Bureau of Manufactures.]

ELECTRICAL EXPOSITION AT MARSEILLE.

Mr. J. J. Jusserand, French ambassador at Washington, forwards through the Department of State copies of the programme, plans and application forms for exhibit in connection with the International Exposition of Electrical Appliances to be held at Marseille from April 19 to October 31, 1908. These may be obtained from the Bureau of Manufactures by intending exhibitors. Descriptive details of the exposition furnished by Consul-General Skinner have already been published in Consular and Trade Reports.

GERMANY.

GERMAN HOTELKEEPERS' ASSOCIATION TO HOLD AN EXHIBITION.

Consul-General Richard Guenther, of Frankfort, sends the following information concerning an exposition to be held in Germany in the interest of hotel keeping:

The German Hotelkeepers' Association will hold an exposition of all articles appertaining to hotel keeping, cooking and baking, food supply for military purposes, butcher and packers' trade, feeding the population, etc. The exposition is to take place at the city of Nuremberg, in the Frankfort consular district, from September 19 to 30, 1908. Exhibits from foreign countries will be allowed " free of customs duties " and pay no railroad freight charges on German railroads on the return trip. This presents to American business men a good opening for winning European customers for many of our superior hotel housekeeping appurtenances, fittings, machines, etc.; our canned goods and other foodstuffs might also be successfully introduced to the Germans.

MISCELLANEOUS.

POSTAL AND OTHER BANKS.

BRITISH INDIA.

GOVERNMENT POSTAL SAVINGS BANK—GENERAL RETURNS.

Consul-General William H. Michael, of Calcutta, furnishes the following statistics covering the general business transacted by the India post-office during the year 1906–7, as given in the report of the director-general:

The Post-Office Indian Savings Bank had 1,190,220 active accounts of which 143,635 were minors and 981,333 ordinary accounts, amounting to $6,828,666 and $36,743,333, respectively; besides which there were 65,163 security deposits, public accounts, etc., amounting to $3,410,000. Estimating the population at 300,000,000, round numbers, the minor and ordinary accounts, $43,571,999, give a deposit per head of the population of about 11.19 cents. It must be remembered, however, that a large majority of the population, who have any money at all laid by, have it hidden away in the ground in tin cans and brass kettles.

The total number of money orders issued during the year was 21,620,813, covering about $129,166,666, an increase of $8,333,333 over the preceding year.

The post-office during the year handled 779,556,586 articles, an increase over the preceding year of 45,554,763. The articles handled were: Letters, 338,541,148; postal cards, 345,166,420; newspapers, 44,045,566; packets, 46,521,568; parcels, 5,281,884. The letters and post cards received from the United Kingdom numbered 8,657,957, an increase over the preceding year of 618,715.

CANADA.

DOMINION'S STRONG BANKING SYSTEM—FOREIGN DEPOSITORS.

Consul H. D. Van Sant, of Kingston. contributes the following paragraph on banking in Canada:

Canadians are proud of their banking system, which is admittedly one of the strongest in the world. There are 35 banks with Dominion charters, and these banks have 1,929 branches. The total paid-up capital of these is $95,827,992, and the surplus or reserve account is $69,827,992. A government requirement is that before depositors can suffer, shareholders must lose in paid-up stock through double liability an amount nearly equal to the entire deposits. It is stated that $55,000,000 of deposits in Canadian banks are made by residents of foreign countries.

JAPAN.

CONTINUED PROSPEROUS CONDITION OF THE BANKS.

The following item from a Japanese newspaper, forwarded by Consul-General Henry B. Miller from Yokohama, shows the prosperity of banks in Japan:

> Despite the general depression of trade during the last half year, the result of the working of banks in Osaka is reported to be not less favorable than in the preceding half. The market value of stocks has much depreciated, but it is stated that full provision was made for such a contingency in the account for the preceding period. Therefore the decline has had but little effect on the position of the banks. Moreover banks have worked very cautiously throughout the crisis, and it is expected they will be able to pay dividends at the same rate as for the preceding period, and yet place greater amounts to reserve.

METRIC SYSTEM IN DENMARK.

NEW LAW, ON BECOMING EFFECTIVE, WILL MAKE MARKET FOR SCALES.

In Denmark and the Danish possessions, at the present time, Consul-General Frank R. Mowrer, of Copenhagen, states that the unit of weight is the Danish pound, equal to 1.1023 pounds avoirdupois; the unit of capacity is the pot, equal to 2.0411 American pints, and the unit of length is the alen, equal to 24.7125 inches. He adds:

At the last session of the Rigsdag a law was enacted for the adoption of the metric system in Denmark. This law was approved by the King on May 4, 1907. The following are its chief provisions:

The unit for the Danish system of measures shall be the meter (39.37 inches). The unit for the Danish system of weights shall be the kilogram (2.2 pounds). Other measures and weights shall be derived from the above-named units. The length of the meter and the weight of the kilogram shall be fixed by the standard meter and the standard kilogram sent to Denmark from the international bureau of weights and measures in Paris. The standard meter and the standard kilogram shall be kept in such manner as the King shall decide.

In all commercial transactions and in the payment of taxes and other obligations the measuring and weighing shall (as fixed by royal decree) be made by measuring and weighing instruments which have been adjusted and stamped in accordance with this law. The office of standard weights and measures is managed by a director appointed by the King, under the supervision of the minister of the interior, who shall decide where in the country scales and stores of adjusted measuring and weighing instruments shall be established.

TIME AND METHODS OF ADOPTION.

It also appears that the minister of the interior shall decide which measuring and weighing instruments shall be adjusted, of what material they shall be made, their shape and the degree of deviation allowed at the adjusting, and as to their intended use. The Government shall decide to what extent the sole right to procure, adjust, and sell new weighing and measuring instruments shall be reserved, also how the readjusting shall be arranged.

From the time the King shall decide, not later, however, than three years after the publication of this law, that the metric measures and weights shall exclusively be used in calculating the customs duties and other official taxes the present system shall be discontinued. From the same time the use of metric measures and weights shall be allowed in all transactions when the parties agree thereto. Two years after the above-named time the metric measures and weights shall be exclusively used, except apothecaries' weights and measures, and scales for weighing precious stones.

It would appear that when this law takes effect there will be a great demand throughout Denmark for scales of all kinds. It is suggested that the development of commercial conditions in this respect can be ascertained from a Copenhagen firm, at present importers of scales. [Name on record at Bureau of Manufactures.]

MARKET FOR GALLSTONE.

JAPANESE IMPORTERS SEEKING A HITHERTO VALUELESS ARTICLE.

The monthly report of the department of trade and commerce of Canada, for September, 1907, contains information supplied by mercantile firms to the Canadian trade commissioner at Yokohama relative to the value of gallstone as an article of commerce in Japan, from which the following is gleaned:

Gallstone is a hard concretion in the gall bladder of beef animals, sometimes called the biliary duct, which is a pea-shaped bag found on the underside of the liver, being the reservoir for the bile. Gallstone can be sold in Japan, in quantity, all that can be secured, at high and profitable prices, varying somewhat according to quality. Until certain Japanese began to import this article the westerners did not know the value of it, and not many knew what it was when asked for. Even at the present time slaughterhouse owners seem not to know the existence of it or that they are throwing gold away.

A Chicago slaughterhouse firm, not knowing the value of it, sold their output to a Japanese importer at about 30 yen ($14.94) per pound, upon which the importer realized 200 yen ($99.60) per pound. In course of time the Chicago firm, by way of discovering the value of the stone, gradually increased their price; the quantity at the same time greatly increased, so that the house is yet exporting to Japan thousands of yen worth monthly.

The inquiring party advises that anyone interesting himself in the matter should have the livers of all animals slaughtered at abattoirs examined. The value of the article varies according to quality, the chief points being size, color, and texture or solidity. Samples should be mailed in tin boxes, each piece wrapped separately in soft cotton, not pressed too hard, and not loose enough to shake about.

BASEBALL IN VENEZUELA.

PROGRESS OF GAME SHOULD CREATE DEMAND FOR AMERICAN GOODS.

In reporting an opening for athletic goods in Venezuela, Consul James W. Johnson writes from Puerto Cabello:

The game of baseball is gaining a steady foothold in Venezuela, and bids fair to become a popular form of outdoor amusement. A game played recently in Caracas was quite a social event, being attended by the wife of the President and many people of prominence. The outlook warrants American manufacturers of athletic goods in putting forth some efforts to encourage the sport. Descriptions and rules of the game printed in Spanish and distributed in the cities of Caracas, La Guaira, Valencia, Puerto Cabello, and Barquesimeto, together with window displays of baseball paraphernalia, would undoubtedly result in spreading the game over this entire section of country and opening up a market for the sale of general athletic and sporting goods. A market for baseball equipment alone is worth being opened, as in this climate the game can be played the whole year.

CINEMATOGRAPHS IN MEXICO.

EXHIBITIONS ARE POPULAR—NO OPPORTUNITY FOR AMERICANS.

Consul-General A. L. M. Gottschalk reports that he has frequently been addressed for information concerning cinematograph shows in Mexico City, and the prospects open to Americans in that line, which leads him to write:

The invariable answer is that Mexico City is no exception to the general favor which such exhibitions enjoy in Spanish-American capitals. There are three or four well-known shows of this kind which are patronized by the best of Mexican society. The charge is 25 centavos (approximately 12½ cents) for admittance, including a seat without distinction of location.

Some few private families on such occasions as birthdays and other family celebrations, will hire the cinematograph and have it brought to their homes for an afternoon or evening performance.

Apart from the well-patronized establishments described there are innumerable smaller ones dotting the city. One or two cinematographs are maintained for advertising purposes upon the public streets, and they alternate interesting views with paid advertisements. One large cigarette-making establishment in this city has a well-conducted cinematograph theater, to which admission is obtained only by the presentation of a given number of the coupons which accompany their cigarettes.

All these cinematographs are of foreign make. The views used are almost exclusively of French make. They often depict scenes in continental European life, which are apparently the only kind which appeal to the public. I do not think there is any field for an American cinematograph establishment in this city; nor would our American views touch a responsive chord in the average Mexico City audience.

CENSUS OF CHILE.

A SUBSTANTIAL INCREASE IN POPULATION.

Consul Alfred A. Winslow, writing from Valparaiso, states that the returns made of the census taken November 30, 1907, gives that city, with its immediate suburbs, a population of 197,596 against 142,000 in 1895, notwithstanding the setback given the city by the earthquake of August 16, 1906. He adds:

The census revealed the fact that there are 992 blocks in the city, with 27,812 dwellings and 1,869 public and semipublic buildings, including churches, public halls, and school buildings. At the time there were 239 buildings in course of construction. The city has 11 elevators connecting the lower part of the city with the hills; 4 street car lines, and at the time there were 100 vessels in port, including two warships, on which there were employed 3,819 men.

The population of Santiago, the capital of the country, is given at 378,711, and the total estimated for the whole of Chile is 3,871,000, taking as a basis the returns so far reported. The population of Chile in 1895 was 2,712,145, which shows a gain of 1,158,855 for the twelve years, or nearly 43 per cent. The population of the next 5 largest cities is as follows: Concepción, 55,554; Iquique, 38,269; Talca, 38,000; Antofagasta, 32,219, and Chillan, 30,684.

SOUTH POLE EXPEDITION.

CHINESE PONIES AND MOTOR CARS TO BE USED BY EXPLORER.

Consul Wilbur T. Gracey, at Tsingtau, China, reports as follows regarding a strange experiment that is being tried in the Antarctic:

Recent newspaper articles announce that fifteen Chinese ponies have been sent from Shanghai to the order of Lieutenant Shackleton, who is in command of the Nimrod conveying the expedition about to make a dash for the South Pole. The animals, with twelve sets of sleigh harness specially made to order, were supplied by a British firm in Shanghai. The ponies were shipped via Hongkong to the Bluff, New Zealand, where they will be handed over to the expedition.

The use of the ponies is said to be entirely Lieutenant Shackleton's idea, and he is taking his own farrier to shoe the animals with ice shoes. The plan is an experiment, but Lieutenant Shackleton has great hope of its success after the party reaches the solid ice. Inquiries were made regarding the capabilities of horses in freezing latitudes, and eventually Commander Shackleton decided that the Chinese pony from northern Manchuria was the best suited for the purpose.

The expedition is also provided with motor cars, and the trial between motors and ponies is in itself interesting.

JEWELRY AS INVESTMENTS.

PEOPLE OF THE LEVANT PUT THEIR MONEY RESERVE INTO VALUABLES.

Consul E. L. Harris, of Smyrna, reports that jewelry has always been greatly in favor among the Levantines, not only as a means of embellishment, but also as an investment. The consul adds:

Even now, and in spite of the many savings banks which provide a safe and remunerative investment, people in the interior prefer to purchase jewelry, probably through a feeling of suspicion in turning their money into strange hands.

Smyrna abounds in jewelers and goldsmiths, who are not, however, skillful in cutting and setting. Precious stones, especially diamonds, are imported in the rough state from Holland. It is difficult to value the amount imported, as the greater part of this article is smuggled in.

A large quantity of false jewelry, worth $50,000 to $55,000, is brought in from Gablonz in Austria, and from Germany. The greater part of these imports is sent to the interior and to the islands of the Archipelago.

"CAT-TAILS" IN ENGLAND.

OPENING FOR THE SALE OF AN UNUTILIZED AMERICAN SUBSTANCE.

Responding to an American inquiry concerning the use of "cat-tails" for padding or upholstering furniture, Consul-General Robert J. Wynne, of London, quotes the following statement made to him by a business man there:

> "Cat-tails" are used in England for upholstering furniture, etc., in place of kapok and other downy substances, but hitherto the supply has been very small, principally due to the poor results obtained. In fact all that has come into this market has been sent on consignment, the selling price varying between 2 cents and 4 cents per pound, because the lower qualities of Indian kapok were sold at 7 cents per pound. Kapok of poor quality is selling at present for 9 cents per pound, and thus there is a possibility of "cat-tails" being imported to better advantage. I will be glad to receive samples of cat-tails, with lowest quotations, f. o. b. seaboard, preferably New York. [Address of the merchant obtainable from Bureau of Manufactures.]

ENGLISH HEALTH REGULATION.

GOVERNMENT MEDICAL INSPECTION OF SCHOOL CHILDREN.

Consul Frank W. Mahin, of Nottingham, states that to effectuate a recent act of Parliament, the British Government board of education has issued directions for the medical inspection of school children. This inspection is aimed to prevent in future generations the "physical unfitness" which, according to expert evidence, now exists in certain classes of the English people.

The duty of inspection is laid upon local education authorities. All children in elementary schools, whether known to be ailing or not, must be inspected. Three inspections must be made during the child's school life, the first when he enters school; the second, three years, and the third six years later. The inspections are to be made on the school premises during school hours. During 1908, children leaving school will also be inspected.

NEW BRITISH PATENT LAW.

ITS EFFECT ON ARTICLES OF FOREIGN MANUFACTURE.

Consul Albert Halstead, of Birmingham, advises that the new British patents and designs act became operative January 1, 1908. This act makes compulsory the working "to an adequate extent" in the United Kingdom of patents having the benefit of the protection of the British patent laws, and will force the manufacture in the United Kingdom of many articles now made in the United States for export to the United Kingdom. It will bring work to British labor, and that is what it is intended to do. Its effect will be most striking in connection with the manufacture of shoe machinery.

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VALUES OF FOREIGN COINS AND CURRENCIES.

[As given by the Director of U. S. Mint and published by Secretary of the Treasury Oct. 1, 1907.]

COUNTRIES WITH FIXED CURRENCIES.

Countries.	Monetary unit.	Value in U.S. gold.	Coins.
Argentina	Peso	$0.965	Gold—argentine ($4.824) and ½ argentine; silver—peso and divisions.
Austria-Hungary	Crown	.203	Gold—10 and 20 crowns; silver—1 and 5 crowns.
Belgium	Franc	.193	Gold—10 and 20 francs; silver—5 francs.
Brazil	Milreis	.546	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British N. A. (except Newfoundland).	Dollar	1.00	
British Honduras	do	1.00	
Chile	Peso	.365	Gold—escudo ($1.825), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Colombia	Dollar	1.00	Gold—condor ($9.647) and double condor; silver—peso.
Costa Rica	Colon	.465	Gold—2, 5, 10, and 20 colons ($9.307); silver—5, 10, 25, and 50 centimos.
Denmark	Crown	.268	Gold—10 and 20 crowns.
Ecuador	Sucre	.487	Gold—10 sucres ($4.8665); silver—sucre and divisions.
Egypt	Pound (100 piasters).	4.943	Gold—5, 10, 20, and 50 piasters; silver—1, 2, 5, 10, and 20 piasters.
Finland	Mark	.193	Gold—10 and 20 marks ($1.93 and $3.859).
France	Franc	.193	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Mark	.238	Gold—5, 10, and 20 marks.
Great Britain	Pound sterling	4.866½	Gold—sovereign (£) and half sovereign.
Greece	Drachma	.193	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	Gourde	.965	Gold—1, 2, 5, and 10 gourdes; silver—gourde and divisions.
India	Pound sterling[a]	4.866½	Gold—sovereign (£); silver—rupee and divisions.
Italy	Lira	.193	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Japan	Yen	.498	Gold—5, 10, and 20 yen; silver—10, 20, and 50 sen.
Liberia	Dollar	1.00	
Mexico	Peso[b]	.498	Gold—5 and 10 pesos; silver—dollar[c] or peso and divisions.
Netherlands	Florin	.402	Gold—10 florins; silver—2½, 1 florin, and divisions.
Newfoundland	Dollar	1.014	Gold—$2 ($2.027).
Norway	Crown	.268	Gold—10 and 20 crowns.
Panama	Balboa	1.00	Gold—1, 2½, 5, 10, and 20 balboas; silver—peso and divisions.
Peru	Libra	4.866½	Gold—½ and 1 libra; silver—sol and divisions.
Philippine Islands	Peso	.50	Silver—peso, 10, 20, and 50 centavos.
Portugal	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Russia	Ruble	.515	Gold—5, 7½, 10, and 15 rubles; silver—5, 10, 15, 20, 25, 50, and 100 copecks.
Spain	Peseta	.193	Gold—25 pesetas; silver—5 pesetas.
Sweden	Crown	.268	Gold—10 and 20 crowns.
Switzerland	Franc	.193	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Piaster	.044	Gold—25, 50, 100, 250, and 500 piasters.
Uruguay	Peso	1.034	Gold—peso; silver—peso and divisions.
Venezuela	Bolivar	.193	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

COUNTRIES WITH FLUCTUATING CURRENCIES.[d]

Country and monetary unit.	July 1, 1906.	Oct. 1, 1906.	Jan. 1, 1907.	Oct. 1, 1907.	Country and monetary unit.	July 1, 1906.	Oct. 1, 1906.	Jan. 1, 1907.	Oct. 1, 1907.
Bolivia:	*Cts.*	*Cts.*	*Cts.*	*Cts.*	China—Continued.	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Silver boliviano	48.0	48.5	51.0	49.9	Kiaochow tael	77.7	77.0	81.0	79.2
Central America:					Mexican dollar		52.6	55.4	54.2
Silver peso	48.0	48.5	51.0	49.9	Nankin tael	77.9	78.6	82.7	80.9
China:					Newchwang tael	75.7	74.5	78.4	76.7
Amoy tael	78.8	73.0	83.6	81.8	Ningpo tael	73.9	76.4	80.8	78.6
British dollar		52.3	55.0	53.8	Peking tael	76.8	77.5	81.5	79.7
Canton tael	78.5	79.2	83.3	81.5	Shanghai tael	71.9	72.6	76.3	74.7
Chefoo tael	75.3	76.0	79.9	78.2	Swatow tael	72.7	73.4	77.2	75.5
Chinkiang tael	76.9	77.6	81.6	79.9	Takau tael	79.2	79.9	84.1	82.3
Fuchau tael	72.8	73.5	77.3	75.6	Tientsin tael	76.3	77.0	81.0	79.2
Haikwan (customs) tael	80.1	80.8	85.0	83.2	Persia:				
					Silver kran	8.8	8.9	9.4	9.2
Hankow tael	73.7	74.3	78.2	76.5	Straits Settlements:				
Hongkong dollar	51.8	52.3	55.0	53.8	Silver dollar		52.3	56.8	56.8

[a] The rupee, $0.3244⅓, 15 to the sovereign, constitutes the money of account.

[b] Seventy-five centigrams fine gold.

[c] Value in Mexico, $0.498.

[d] Coins of silver-standard countries are valued by pure silver content at average market price of silver for the three months preceding date of circular issued by United States Treasury Department.

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DEPARTMENT OF COMMERCE AND LABOR
BUREAU OF MANUFACTURES

MONTHLY CONSULAR AND TRADE REPORTS

APRIL, 1908

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MONTHLY CONSULAR *and* TRADE REPORTS

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FOREIGN COMMERCE.

MEXICO.

COMMERCIAL AND INDUSTRIAL CONDITIONS.

EXTENSIVE RESOURCES AND GENERAL DEVELOPMENT—UNITED STATES PRODUCTS IN DEMAND.

Special Agent Arthur B. Butman furnishes the following report on trade conditions in the Mexican Republic, with especial reference to the States of Vera Cruz, Jalisco, and San Luis Potosi:

The city of Vera Cruz has a population of 30,000, and is the chief port of entry of the Mexican Republic. It has a good harbor, well protected, with a minimum depth of 33 feet of water throughout, and flanked by fine stone docks.

Much labor, thought, and capital have during recent years been devoted by the municipality to the general advancement of this commercial Gulf city. Improvements in sanitation are gradually being accomplished; a system of sewerage has been introduced, with which the principal streets are already connected. The general health of the town is improving, the death rate having decreased considerably, as compared with two years ago. Many new buildings are under process of construction throughout the city, although, owing to the scarcity of carpenters, masons, and other artisans, slow progress is being made. Plans have already been accepted for the erection of a new railroad terminal station at an estimated cost of $6,000,000 (Mexican), and it is expected that the work will be in progress early in 1908. All railroads running into Vera Cruz will use the new terminal.

The industries of the city include cigar manufactories (the principal tobacco plantations of Mexico being situated in the State of Vera Cruz), soap factories, and a petroleum refinery with a capacity of 350,000 gallons per month, using crude oil from the United States.

COMMERCIAL ACTIVITY—READY-MADE CLOTHING.

A constant growth in the commercial activity of the port is shown. This is especially gratifying, since the most important advance has been in trade with the United States, although other countries enter into the progress. Cattle, lumber, foodstuffs, and machinery constitute the principal imports from the United States. England is the chief source of supply for textiles, followed by France and Spain, France furnishing a certain quantity of the finest qualities. In importations of chemicals, those of German manufacture head the list, being about twice in quantity those furnished by the United States.

The trade with the United States in machinery and lumber is important, not less than 10,000,000 feet of lumber being annually received at this port. Regarding lumber for this market, I am informed that yellow pine is found to be the most desirable, affording best results under the prevailing climatic influences.

American ready-made clothing (women's) of the cheaper qualities should find a good market in Vera Cruz, the present supply being almost wholly furnished by France and Spain. Aside from black and white for women's skirts and waists, the favorite colors seem to be red and various shades of purple. All articles of women's wearing apparel carry a stronger appeal to the native buyer if adorned, more or less lavishly, with cheap laces and embroideries. France supplies the higher grades of women's headgear, but for the cheaper qualities a market for ready-trimmed hats from the United States might be found.

Men's ready-made clothing in the lighter weight woolen materials finds a good sale; also hats in felt, these being worn, like the native wool sombrero, during the entire year. Men's hats are at the present time principally furnished by English makers.

SHOE TRADE.

American shoes are on sale in various stores in Vera Cruz, but there are no exclusive shoe stores in the city and no dealers carrying American goods exclusively. Shoes form one of many lines of the retailer's stock in trade, and goods of Spanish, French, and American manufacture exhibited side by side individually win or lose the buyer, as his fancy may dictate. I find American-made shoes in good favor, but the price asked—$9.50 to $13.50 Mexican—being beyond what the masses are able to pay, restricts any considerable increase of trade in this city. Spain, our strongest foreign competitor, furnishes for this market a hand-made shoe of good workmanship which retails for less money than the American product.

Being situated within the Tropics, Vera Cruz offers a moderately large field for the sale of white canvas shoes for both sexes in Oxfords and bals. To meet the demands of this trade these shoes should be of good quality, well made, and priced at a medium figure.

STEAMSHIP LINE TO BRITISH COLUMBIA.

That Canada is alive to the status of Mexico's commerce and its future prospects is evinced by the recent establishment of the Canadian-Mexican Pacific Steamship Company, operating between British Columbia and ports on the west coast of Mexico. The inaugural boat of this line sailed from Vancouver on May 1 last with a cargo of lumber and coal and carried as a return cargo salt, tobacco and cigars, fruits, and ore. From the start the freight traffic of the line has increased. The last steamer arriving at the port of Salina Cruz carried its full cargo of 4,000 tons freight. The amount of interest shown in the enterprise in both this country and British Columbia may be said to be responsible for the success thus far obtained. Two boats of 4,000 tons each, capable of 12 knots an hour, are operated at present, with monthly sailings in each direction. Accommodations for passengers are provided to the number of 20 saloon and 100 intermediate, and the passage between Vancouver and Mazatlan is made in eight and one-half days.

RESULTS OF CANADIAN ENTERPRISE.

Banana growing in Mexico is rapidly assuming importance. Recognizing this, the steamship company has installed special features of ventilation and a full modern equipment for facilitating the handling of fruit on its vessels. Canadian manufacturers and exporters are making a strenuous effort, since the inauguration of this line of steamers, to increase their sales in Mexico's markets. The merchants of the Republic are furnished at just as low or even lower prices than those previously proffered by American manufacturers, with the assurance of cheaper freight rates on the part of the Canadian competitors.

Formerly no appreciable trade relations existed between British Columbia and the west coast of Mexico, owing to the expense and attendant delays of rehandling and reshipment of freight at San Francisco, via which port goods were shipped. During the past six months, however, the exportation from Mexico of various fruits, hard woods, tobacco, and cigars has shown a considerable increase, while importations into the Republic from Canada, especially of agricultural implements, have assumed marked proportions.

CONDITION OF COFFEE AND SUGAR CROPS.

It is estimated that the exports of coffee from Mexico this year will be in the neighborhood of 50,000,000 pounds, and owing to the high prices the outlook for the planters is a very favorable one. The disadvantage of improper curing of the bean, which formerly prevailed in this country, has been done away with, and improved methods, embracing all modern appliances, are now in general use on all the large plantations. Better grades of coffee and ready sales at high prices have resulted. Recent reports from the coffee districts are to the effect that the trees are loaded with berries and there is every indication that excellent crops may be expected. Picking begun about December 1.

Sugar conditions in the coast regions are excellent. Abundant rains have occurred, rendering a fine cane crop, which is well matured and will soon be ready for cutting. It is estimated that the tonnage from this section will considerably exceed that of last year. In the interior sugar-growing State of Morelos opposite conditions prevail. Rains have been scarce and the majority of the cane has failed to come to maturity. Here the crop is reported to be the lightest in years and is expected to fall 30 per cent below that of last year.

ESTABLISHMENT OF IMPORTANT INDUSTRY.

That the immense tracts of long-leaf yellow pine in Mexico may, in addition to the lumber annually produced, be made to furnish the Republic and foreign markets as well with turpentine there has been recently established in the State of Michoacan, near Morelia, a factory for the production of raw turpentine, having a capacity of 200,000 gallons yearly. The manufacture of turpentine has been carried on in a small way in Mexico for some time, but in the crudest manner, according to the fashion handed down by the Indians, and naturally it has not made any appreciable commercial showing. It is expected, however, that with the erection of the new plant, which is one of the most modern in existence, the establishment of a successful turpentine industry in the Republic is now launched. As climatic and other necessary conditions obtain here, it is hoped that with the low cost of labor it may be possible for Mexico to enter into and become a controlling factor in the foreign turpentine trade. The plant is now in active running order.

UNITED STATES LEADS IN COMMERCE.

The general industrial and trade conditions of Mexico are at present such as should command attention in the United States. The country is rapidly advancing educationally, industrially, and commercially; the feeling of the people toward the United States is most friendly, while purchases of American manufactured products are already large and capable of substantial increase.

The total trade of Mexico for the fiscal year 1907 was valued at $239,727,936 gold, of which $116,214,967 represents imports, and $123,512,969 exports (including bullion and specie). The value of the imports from the United States was $72,895,539, and of exports to the United States $87,652,943. The United States takes by far the larger proportion of Mexico's exports and furnishes the greater percentage of her imports. Of the share of Mexico's imports furnished by European countries, Germany supplies most, representing a value of $12,165,767, followed by Great Britain with $11,749,275, France with $8,781,624, and Spain with $3,970,542. Other European countries show much lower figures, and are, in their respective order, Belgium, Italy, Austria-Hungary, and Switzerland.

The above figures, though gratifying as regards the trade of the United States with the Republic, should not create a feeling of over-confidence. Trade with European countries shows a constant increase much larger in proportion than that accredited to the United States. For comparison, the following gains for the fiscal year 1907 over 1906 are noted: Germany, $1,872,739; Great Britain, $1,698,867; France, $728,307; United States, $415,806. The nations of Europe are certainly alive to the importance of Mexico's markets.

The principal articles imported from the United States into Mexico are coal, lumber, gunpowder, manufactures of iron and steel, machinery, raw cotton, wheat, and boots and shoes. Mexico's principal exports to the United States are copper, lead, goatskins and hides, coffee, and textile grasses.

Statistics contained in this report are given as officially issued by the Mexican Government.

MERCANTILE OPPORTUNITIES IN JALISCO.

Jalisco has a leading position in the development of western Mexico. The population is approximately 1,250,000. The State has a coast line of about 300 miles on the Pacific Ocean in which there are three harbors, viz, Las Penas, Chamela, and Purificacion. The varied conditions of climate and the remarkable fertility of the soil render an unusually rich agricultural territory and offer a field for great future development. The land is divided into large haciendas, which are the property of Spaniards and native Mexicans. Guadalajara, the capital, with a population of about 120,000, is the seat of these wealthy haciendados, and has by far the greatest per capita wealth of any city of the Republic.

On the lower table-lands in the valleys a considerable quantity of corn is produced, which is used for home consumption, a portion being employed in the manufacture of alcohol. Although this is the greatest corn-producing State in Mexico, there are years, such as 1906, when corn is imported from the United States for consumption in Jalisco. On the higher table-lands wheat of good quality is produced, which is milled locally. Several modern mills have been built and equipped with up-to-date machinery. Jalisco flour has a deservedly good reputation.

Suger cane is raised in large quantities. In the valleys of Zapotlan, Tamazula, and Ahualulco there are modern plants producing a good white loaf sugar. Statistics for the fiscal year 1906 show that there were 6,448,060 kilos (kilo=2.2046 pounds) of molasses and 6,196,400 kilos ot sugar produced in Jalisco.

Rice is raised in the State, but the quantity is not sufficient for the home demand. This product is brought in from the neighboring State of Colima and the territory of Tepic, where it is raised in large quantities.

ORANGES, TOBACCO, AND TIMBER—WATER POWER.

Oranges of the best quality grown in Mexico are raised in this region, and are shipped to other portions of Mexico, and, to some extent, to the United States. The Mexican Central Railway has had under construction for two years past a spur from its Guadalajara branch to the orange groves of Atotonilco, and this year a special effort is being made to market oranges from this district in St. Louis and Kansas City and Texas points. The oranges here are ready for the market from the middle of October on, and so have the advantage of being a month or so earlier than the California fruit.

In the Las Penas Valley a good grade of tobacco is produced, which is bought on the ground by representatives of the Mexico City cigarette factories and shipped by way of Guaymas and El Paso in bond. The soil in this valley, as in certain districts of the territory of Tepic, notably in the valleys of Santiago, Exquintla, and Compostela, is particularly suited for the raising of a high-class wrapper tobacco. The methods of curing and culture now prevailing are crude; but with good seed and proper culture and curing tobacco raising in the chocolate-colored soil of these coast uplands should be lucrative.

There is considerable pine timber on the mountain ranges which traverse the State, particularly in the main coastal range of the Sierra Madres. Lack of transportation facilities, however, prevents the marketing of this timber.

The State is well-watered, and its water courses provide enormous resources of undeveloped water power. In the city of Guadalajara there is a street railway and lighting plant, which sells power at a reasonable rate to a number of small factories. In the Atemajac Valley, outside the city of Guadalajara, there is a modern 4,000-horsepower plant operating cotton mills and other factories equipped with American electrical machinery. At the falls of Juanacatlán there is also a large plant equipped with electrical machinery manufactured in the United States.

MINERAL RESOURCES.

The mining camps of Jalisco from north to south are Bolaños, Hostotipaquillo, Etzatlan, Ameca, Bautista, Ayutla, Parnasso, Mascota, Navidad, San Sebastian, Guachinango, Cuale, Bramador, Tapalpa, and Zapotlan. The metals produced are silver, copper, gold, and lead. The mines are largely silver mines, which produce small amounts of gold, while the Autlan copper district is promising. The main producing mine of this district, the San José del Amparo of Etzatlan, which is owned largely by Pennsylvania investors, has been shipping ore for some time, and a 150-ton cyanide plant was opened for operation in January. The veins are strong and extensive in Jalisco, and while the mines are largely undeveloped, conservative experts say that the State will be one of the great mining districts of the Republic when its powerful low-grade ledges are opened up. This is particularly true of the Hostotipaquillo district, an old Spanish district with a record of large production, which was practically abandoned on account of the unsettled conditions. Americans went into this district a few years ago and now the El Favor, Virginia-Cabrera, the Santo Domingo, and half a dozen other mines have sufficient ore blocked out to warrant the erection of large mills. The extension of the Southern Pacific Railway will reach the district and thus solve the transportation problem. The mineral development of Jalisco has been retarded by the rich agricultural resources, which attracted Spanish capital and energy as soon as the surface bonanzas of the mines were exhausted.

COMPARISON OF IRON DEPOSITS OF JALISCO AND OTHER STATES.

The iron deposits of the State of Jalisco are small and, in comparison with those farther south along the coast in Colima, Michoacan, Guerrero, and Oaxaca, are insignificant. Iron is found in the district of Comanja, Tula, and Providencia. At the two places last named foundries have been established and run with intermittent profit, producing a good quality of charcoal iron. In Pihuamo are large bodies of iron ore, practically undeveloped and of a somewhat lower grade. In Colima there are within a radius of 30 miles iron deposits which show at least 60 per cent iron with a low percentage of phosphorus, good bessemer iron, which will run over 60,000,000 tons.

There is one deposit in the State of Michoacán, the Progresso, which measures up 28,000,000 tons of a superior grade of iron. Still farther south, near the mouth of the Balsas River, in the State of Guerrero, there is an immense deposit of iron which has been variously estimated by experts to contain from 220,000,000 to 260,000,000 tons of 63 per cent of iron. From this point down the Guerrero coast there are a number of smaller deposits ranging from 1,000,000 to 20,000,000 tons. In the State of Oaxaca are also a number of deposits; those near the coast are inferior in quality, but those inland are of almost the same quality as the deposits described.

INDUSTRIAL ACTIVITY.

The cattle industry in the State of Jalisco is growing larger every year, and with the importation of better stock from the United States the quality of the cattle is improving.

In the district of Tequila a distillation of the root of the maguey plant is made, named from the district "vino de Tequila," which is sold in large quantities all over Mexico. Brandy is also distilled from the maguey and alcohol from corn and sugar. The combined annual output of the many small distilleries throughout the State is estimated at approximately 4,620,000 liters (liter=0.26417 gallon.)

There are five cotton-goods and textile factories, operating 50,907 spindles and 1,343 looms, and giving employment to 1,917 operators. According to the latest available annual statistics, these factories consumed 1,366,933 kilos (kilo = 2.2046 pounds) of cotton and had sales of an estimated value of $1,393,919 Mexican. Woolens for home consumption are woven in the State.

The cigar and cigarette, soap, candles, match, and brick and tile industries are all of more or less importance. Tanning is a local industry. In Guadalajara there is a small shoe factory with modern equipment of American manufacture.

EXTENSION OF RAILWAY LINES.

There is considerable railway construction in this section at present. It is hoped that in July will be formally opened the extension of the Mexican Central Guadalajara line to the Pacific coast harbor of Manzanillo, where improvements involving large expenditures have been made in port works. When finished this line will provide a needed outlet for western interior points to the Pacific Ocean, thereby opening up channels of trade with the Pacific ports of the United States, British Columbia, Central and South America, and the Far East and rendering the importation of foreign products less expensive.

A considerable work has already been done from the Guadalajara end of the Southern Pacific West Coast trunk line, which is being built from the terminus of Guaymas to the city of Guadalajara, under the name of Cananea, Rio Yaqui, and Pacific Railway. Work is also progressing on the line at Mazatlan. These railways will contribute much to the development of the west coast of Mexico, and will greatly enhance the importance of Guadalajara as a distributing center for the interior western points.

MARKETS FOR AMERICAN MACHINERY.

There is at present a good market for American agricultural machinery and implements of all kinds, and I am told that the demand for these goods is constantly increasing. Although German and English goods are found in competition in many instances, implements of American manufacture of every sort predominate everywhere. Sales of American plows lead, notwithstanding the fact that our German competitors have introduced and tried to popularize here a double-molded board, and also a gang plow. The American-made plow, however, is said to give better satisfaction in every way.

In thrashing machinery the strongest competition is with machines of English manufacture, although here again the American product leads in sales, being better adapted to the needs of the country. The American machine is of lighter weight and simpler construction than the English, and therefore more readily kept in repair by users who are not naturally of a mechanical turn of mind. American-made machines are also lower in price than the English.

Mining machinery used in the mining districts of this region is for the most part of American origin. In the case of mining machinery at least the American manufacturer has studied the needs of his customers and the requirements of packing. Machinery which must be carried over the Sierra trails is sent in sections in the most convenient manner. American electrical machinery has the best reputation here, although the Germans are making efforts to obtain the Mexican trade in electrical devices.

Corrugated iron in large quantities is used in this section. The greater portion is at present imported from England, which makes a product of greater width than the American, and for that reason is preferred. Dealers state that the American manufacturers would be able to find a good sale in western Mexico for an iron 32 to 36 inches wide. The quality of the American product is good, and the finish better liked than that of its competitor, which is of a dull color. England also holds the market for black sheet iron, principally because of the price, which is less by from 1 to 1½ cents per pound.

MISCELLANEOUS GOODS OF FOREIGN MAKE.

Guadalajara is the center of a large trade in milk cans, of which some are furnished by the United States and others by Germany. The American article is acknowledged to be superior both in material and make, and might control the market if made in the liter measurements [liter=1.05668 liquid quarts], like the German can.

Stamped goods and enamel ware of every description find large sales in Mexico, and Americans are able to undersell other countries in these lines. Butter churns and other articles for dairy use might be profitably placed on the market.

The better grades of glass tableware are from Europe, principally from Germany; common glassware is secured in the United States. The dealer most prominent in this line in Guadalajara reports that he disposes of a carload of American cheap glassware in about eight months, on an average. France and England furnish the high-grade crockery ware.

In the hardware and dry goods trades the Germans and French, respectively, lead.

American firearms are in demand in this section, with Belgian arms in competition.

German and French manufacturers of hardware and dry goods study the wants of the Mexicans and the conditions of payment that are most convenient for them, with the result that they sell the goods; while the American manufacturer of the same articles, as of some other lines, tries to push his goods in his own way, seemingly regardless of the people with whom he has to deal, and often without success. There is a notable exception in the case of American shoes, which are preferred to those of Spanish and French make and practically control the market. American ready-made clothing for men and soft and stiff hats have a good share of trade in their line.

In the drug and chemical trade of Mexico Germany holds first place, and the products of German laboratories and chemical works are found in every part of the country.

The druggist glassware trade is held by Germany.

Importations from France are principally toilet articles, perfumes, soaps, powders, etc.

SYSTEMS OF PAYMENT AND TRADE METHODS.

The reason for the predominance of German goods in the drug and chemical line is the fact that German houses allow their Mexican customers three to four months credit, while the American houses generally sell at 30 days net, with 2 per cent discount on 10-day payment. The German credit system appeals to the Mexican buyer in that it gives him time not only to receive the goods, but in many instances to sell them before the account falls due. On the other hand, under the American system of billing on short time, it often happens that the bill must be paid long before the goods can arrive, be checked up, and examined. In certain cases it has taken from forty-five to sixty days for goods to arrive shipped from the United States. This delay, though doubtless due to congestion of freight often at Mexican ports, should, in the opinion of Mexican importers, be taken into consideration by the consignor. Care should be taken in invoicing, because when errors occur in the invoice the consignee is fined a treble duty on the goods.

In the drug trade at least the European salesman seems to know the exact cost of the American products, as well as the added cost of the goods laid down in this country, and accordingly, when endeavoring to make sales, meets our prices or undersells us. Notwithstanding these drawbacks American trade is increasing, and there is probability of a more rapid increase in the future, owing to the recent efforts on the part of some American houses more thoroughly and systematically to introduce and push the sales of their products. Patent medicines of all descriptions have a good market in this country if sufficiently advertised.

SUGGESTIONS FOR INCREASING TRADE.

The American exporter in any line who wishes to introduce goods upon the Mexican markets, must remember that transportation facilities are not of the same order in all parts of this country as in the United States. Goods destined for many interior towns must often be carried part of the distance by pack mule, and should therefore be carefully and closely packed, with a view to permit this mode of transportation, if this is requested. European competitors give minute attention to all such requirements, and success in furthering American trade depends, more largely than is realized, upon these small details.

Again, when sending salesmen to Mexico European houses take into consideration the characteristics and habits of the people. To be successful in this country, the salesman should remain upon the ground long enough to enable him to become acquainted with the trade and gain the confidence of the buyer. The Mexican requires some time for the consideration of a proposition, especially a new one, but when once his custom is secured, he proves a good-paying and a steady purchaser. American houses are said to be too prone to become discouraged over small initial orders, and to discontinue sending representatives.

Through its relation to the Southern Pacific Railway extension, as previously mentioned, Guadalajara is likely to interest American capital largely in its undeveloped agricultural, mineral, and timber resources; and with increasing prosperity this already rich section of Mexico will show a much larger purchasing power and a much larger per capita consumption of American manufactures.

CONDITIONS IN SAN LUIS POTOSI.

The State of San Luis Potosi owes its importance both to the large mining resources contained within its boundaries and to the favorable geographical position which it occupies. The capital, situated on a high plateau, bears the same name and is about equidistant from the Gulf of Mexico and the Pacific Ocean. The city of San Luis Potosi has for a century past been the trading center for the western slope, since before the advent of railroads goods imported through the port of Tampico for western and northern points were transported hither by pack mules for distribution. The city is now a railroad center, with the Mexican National Line leading north and south, the Mexican Central westward to Aguas Calientes, where it joins the main line, and eastward to Tampico and the Gulf of Mexico. This city has a population of approximately 70,000 inhabitants, and commercially ocupies a similar position on the eastern slope to that held by Guadalajara toward the western.

RESOURCES AND INDUSTRIES.

Agriculturally the State can not compete with some others, as there is a lack of rainfall here, and few natural streams, although regions near the Gulf States are fertile and well watered. The cattle-raising interests of the State are of growing importance, and the products of the charcoal industry furnish one source of supply for the Mexico City fuel markets.

The mining riches of San Luis Potosi include sulphate of mercury and zinc, cinnabar, silver, copper, gold, and lead. The principal mining camps are Catorce, Charcas, Guadalcazar, Carro de San Pedro, Bernalejo, and Ramos. I am informed that throughout the State there are approximately 13,000 miners employed.

The capital city is well paved and well kept, and boasts some important commercial houses, having extensive connections with all parts of the Republic. Its industries include smelting, a flour mill, a nail factory, a linen mill, etc. The Mexican National Packing Company has in course of construction a cold-storage plant in this city, as auxiliary to the packing house at Uruapan.

As regards the various products of import and their origin, practically the same conditions, requirements, and sources of supply obtain here as reported from other sections. The demands for mining machinery, agricultural machinery and implements are supplied principally by American manufacturers, with English and German products in competition. The same holds true in the hardware trade. A German firm conducts a well-appointed retail store for stationer's supplies in this and several other cities of the Republic, handling, naturally, most largely goods of German manufacture. There is also a depot where like products of American make may be secured, as well as American books and periodicals.

CLOTHING, BOOTS AND SHOES, ETC., FROM THE UNITED STATES.

There exists a good demand here, as elsewhere throughout the Republic, for American ready-made clothing for both sexes. There is also a good trade in the finest qualities of ready-made infants' wear, as required by Mexican families of the higher class, which is now chiefly supplied by French makers. Another article of women's wearing apparel for which the annual sales are large is the "tapalo," the characteristic native wrap, both headgear and shawl, worn generally by all women and girls throughout Mexico, with the exception of women belonging to the wealthy class. This shawl, as worn by the lower classes, is known as a "reboso," is made of cotton, and is of domestic manufacture. France is the principal source of supply for the "tapalo," which is always black, made either from wool or silk and wool, woven with a border, and sells ordinarily for from $2 to $25 Mexican.

The boot and shoe trade is very largely supplied by American makers. Our products here, as elsewhere in Mexico, are in good favor, and the same may be said of numerous manufactures found in the various retail stores.

ENGLISH PACKING SAID TO BE BETTER THAN AMERICAN.

The trade in American groceries and foodstuffs in San Luis Potosi is considerable. Goods of English origin are found in competition, and in some instances this competition is very keen; particularly in the biscuit line. I am told that the first cost of English products is less than of American products, the rate of customs duty being the same in each instance; but the British competitor takes more care in packing, and consequently his product is apt to give better satisfaction. English biscuits are packed in hermetically sealed cans and will remain in a fresh condition for a long time.

The sales of California canned fruits are somewhat slow, the high rate of customs duty tending to prohibit any marked increase in the same. Both Spanish and American olives are on the market, a fair proportion of this trade being ours. Breakfast foods are supplied by American houses and, with the exception of oatmeal, their products meet no competition. A certain British firm prepares this food for export, packed in tin cans, with consequent success. Two dairies are now established near San Luis Potosi, and while American-made butter excels the Mexican output, sales of the former have fallen off, owing to the proximity of this new source of supply. American hams and bacon are in good demand, also canned meats and fish, these especially for use in the mining regions of the State.

HENEQUEN SITUATION IN YUCATAN.

The financial depression prevailing among henequen planters, noted some weeks since, has been substantially relieved by the Banco Nacional de Mexico, which recently authorized its branch at Campeche to advance the sum of $2,000,000 Mexican to the henequen growers of that section. The bank will purchase fiber to the above amount, and, as the same is presented, will pay the growers 90 per cent of the market value of the product, as a loan for a term of six months, the notes of the owners bearing 10 per cent interest. The fiber is now being gathered, and the situation bids fair to become much brighter in that section. Recently published statistics state that the exports of henequen from the Port of Progreso for 1907 amounted to 611,845 bales, weighing 100,773,004 kilos (kilo=2¼ pounds), valued at $24,874,317 Mexican. As compared with the exports for the previous year; an increase of 1,200 bales is shown. The above 611,845 bales were divided among the following countries: United States, 552,072; Canada, 44,269; Cuba, 7,787; Europe, 7,710; South America, 7.

VEHICLE AND HARNESS TRADE.

MARKET LARGELY SUPPLIED BY UNITED STATES MANUFACTURERS.

Consul-General Philip C. Hanna, of Monterey, reviews the vehicle and harness trade of Mexico as follows:

In the business of manufacturing carriages, buggies, and other light vehicles a beginning has been made in this Republic, but as yet most of such vehicles used here are imported, the United States having by far the larger part of the trade. A drawback to the manufacture of such vehicles in Mexico is the lack of the proper kind of timber. This timber is secured from the United States, and factories generally find it cheaper to import finished parts from that country, especially the wooden parts, and put them together in their own factories.

Frequently vehicles are brought in unpainted and untrimmed, or "in white," as it is termed in the trade, and painted and trimmed here. The duty on a painted carriage or buggy ranges from 23 to 33 cents (American currency) per kilo (2.2 pounds), while the charge on an unpainted and unfinished vehicle ranges from 6 to 17 cents per kilo. Thus some dealers say they find it profitable to do the painting and finishing of seats and tops here, although the material for these purposes is also generally imported from the United States. Cushions and trimmings ready to put on pay a duty of 15 cents per kilo, as compared with 33 cents paid on the weight of a finished vehicle. Parts of buggies and carriages, such as spokes and felloes, are admitted at rates ranging from 3 to 8 cents per kilo.

The finest victorias used here are mostly imported from France, though some are imported from Germany. The class of French vehicles sold here bring from $1,600 to $2,000 or more. Victorias of equally high grade are made in the United States, but it is said American manufacturers have not been able to compete in price. On the other hand, Germany is now exporting similar vehicles at much lower prices than those made by France, but perhaps lacking in the style and finish of the French makes.

WHERE UNITED STATES PREDOMINATES—HARNESS TRADE.

American light vehicles are favored here because they are well made and adapted to the climate. Recently experiments have been made in Monterey in the manufacture of bodies for buggies and carriages, but it has not been an entire success. Notwithstanding the fact that kiln-dried woods are brought from American factories for this purpose—panels and other thin parts being made here—it is said that they have a tendency to split after they are finished and painted.

In all light carriages and buggies the United States is able to sell cheaper than France or Germany, and a local dealer estimates that 30 such vehicles from the United States are sold here to 1 from Europe. I am informed that all rockaways and similar vehicles used here are of American make.

Farm wagons and the heavier wagons used by miners are brought almost exclusively from the United States. On these the duty ranges from 11 to 28 cents per kilo for the unfinished vehicle, according to weight. The only heavy vehicles manufactured are ox carts, of which a large number are used here. The wood used in the making of the wheels of these carts is imported from the United States.

At the present time most of the harness used in this country is made in Mexico of Mexican leather. The tanning industry has been developed to a point where a good quality of leather for harness making is furnished at home, and the workmanship of the local harness factories satisfies the local demand up to very fine and expensive harness. The latter is imported mostly from France, although Germany and the United States have a share in the trade. These sets of French harness cost from $500 to $1,000, and as might be expected are not in general use. In medium, and even low grades of harness, American manufacturers do considerable business in Monterey, but the local factories dominate the market. [The two principal importers of vehicles and harness at Monterey are listed at the Bureau of Manufactures.]

PORT OF ENTRY AT MAGDALENA BAY.

GOVERNMENT'S ACTION OF GREAT IMPORTANCE TO MERCHANT VESSELS.

Consul-General A. L. M. Gottschalk reports from Mexico City that the Government of Mexico has made Magdalena Bay a regular port of entry, dating from February 15, adding the following details:

The Mexican Government, in view of the movement which is taking place commercially toward Magdalena Bay, decided to make of the Bay, for an indefinite period, a port of entry. This will do away with the necessity which has hitherto existed of merchant vessels with cargoes for Magdalena Bay clearing from American ports for Ensenada and being obliged to transport their cargoes from the latter point to Magdalena Bay as "coastwise cargoes," it having first been required, of course, that the cargoes in question be entered at the Ensenada custom-house and the duties thereon paid at that port.

After February 15 Magdalena Bay will be a Mexican port of entry, under the charge of a skilled and experienced Mexican custom-house officer specially selected by the Mexican treasury department for that service. His title will be "Administrator of the Magdalena Bay Custom-House," and he will be accompanied by a specially selected staff, which will include a competent official speaking the English language fluently. The new collector (administrador) will be Señor D. Rafael Castro Montaño, who will probably also exercise the functions of captain of the port.

CANADA.

PRESENT BUSINESS CONDITIONS.

COMMERCIAL PROSPERITY CHECKED BY UNAVAILABLE CAPITAL.

Consul-General William H. Bradley, of Montreal, furnishes a summarized report on the commerce and banking conditions of Canada for the year 1907. He prefaces his review with the following newspaper statement:

> The trade of Canada has outstripped the capital available for its conduct. Bank discounts of commercial paper have mounted up till they equal public deposits, and a halt to further expansion has been called. Floating capital

has been converted into fixed capital during the last five or six years the world over. Prices of all commodities have steadily risen, not least the price of labor. Extravagance has marked the way of living. The waste of wars within the decade has been great. An enormous expansion of credit has taken place, and when capital, the basis of sound credit, began to run short a sharp collapse followed.

With the year 1907 the climax of an era of great growth in all directions was reached in this province and in the Dominion. Ten years ago the population was 5,370,000; to-day a careful estimate places it at 6,600,000, a gain of 23 per cent. Foreign trade has advanced from $234,926,000 to $571,783,000 in the same period.

Since 1897 the public deposits in banks—chartered, government, and savings—have risen from $270,000,000 to $667,400,000. One point in the banking situation is worthy of note: In 1906 the operations of Canadian banks on the basis of total assets were enlarged $124,500,000, while in 1907 the enlargement was only $18,800,000. The rate of expansion was slowing down, as deposits in 1906 rose $72,000,000, while in 1907 the increase was only $15,000,000. There was therefore less to lend. Six years ago bank loans to commercial borrowers were 89.5 per cent of public deposits; to-day the loans amount to about 98.6 per cent of the deposits. Between July 31, 1906, and July 31, 1907, banking capital, reserve, and deposits increased $55,729,000, while in the same period commercial loans increased $80,394,000.

Five years ago the percentage of commercial loans to total assets of banks in Canada is said to have been 52 per cent; in 1906, 57.5 per cent; and in October, 1907, it was 61 per cent. In the past three years the balance due Canadian banks by foreign agents has been reduced from $21,140,300 in 1905, and $17,836,700 in 1906, to $6,639,400 in October, 1907. The aggregate bank clearings at Montreal for the first ten months of 1905 were $1,078,000,000; of 1906, $1,246,815,000; and of 1907, $1,289,046,000. Throughout the Dominion clearing increased 9.4 per cent during the ten months of 1907.

IMPORTS AND EXPORTS—AMERICAN BRANCH CONCERNS.

The imports into and exports from Canada during the past five years were as follows:

Year.	Imports.	Exports.
1903	$233,790,516	$214,401,674
1904	243,586,424	198,414,439
1905	251,603,000	190,854,946
1906	283,263,865	235,483,956
1907	$345,271,090	$226,512,063
Total	1,357,514,895	1,065,667,078

The growth of manufactures during the past few years has been very rapid. In 1901 the value of the output of manufacturing industries in all Canada was $481,053,375; in 1907 it was $717,118,092. In Montreal alone for the year 1901 the value was $84,490,942, which had grown by 1906 to $118,044,675.

A special commissioner, sent over by the British Board of Trade to find means of extending the trade with England, states that 122 of the leading manufacturing firms of the United States have operating branches in Canada, and declares that in Montreal alone $25,000,000 to $75,000,000 American capital is invested.

NORTHWEST RESOURCES.

POSSIBILITIES OF UNDEVELOPED AREA ON THE ARCTIC SLOPE.

Consul A. G. Seyfert writes from Collingwood the following concerning the resources of the northwest of Canada, and more particularly of that portion lying north of the Saskatchewan, which is often referred to as "Canada's fertile northland:"

The Canadian prairie provinces of Manitoba, Saskatchewan, and Alberta have nearly reached the 100,000,000-bushel mark of annual wheat production, and there is also being produced nearly 100,000,000 bushels of other grains annually. The tract of country from which this enormous yield of grain is being produced is practically confined to what has been known in past years as "the fertile belt;" that is, the country south of the North Saskatchewan River. The limit of production in this area is very far from being reached.

The size of the northwest, even that of the fertile belt, is hardly realized by one accustomed to the less extensive fertile areas in eastern Canada. The following is a summany in part of an account in the Toronto Globe by a writer who spent last summer in an exploring expedition in the north:

From Winnipeg to Edmonton is about 800 miles, more than three times the distance from Ottawa to Toronto. It has been stated that the Canadian Northern Railway between these two points, with about 100 stations, will have a grain-shipping station at all but two of the hundred. In this area there are now probably more than 1,000,000 people, and the annual increase by immigration will approximate 150,000.

The size of the region lying north of the Saskatchewan River is still less comprehended. From the international boundary to Edmonton is 312 miles, but from Edmonton to the mouth of the Mackenzie River in an air line is over 1,300 miles, about four times the distance from Toronto to Montreal.

North from Edmonton about 400 miles as one travels by the rivers is Fort Vermilion, on the Peace River, where there is a well-equipped, modern, electric-lighted flour mill. There is undoubted evidence that wheat has been grown about this point for many years successfully. North from here, down the Peace River to the Slave River and thence down the Mackenzie River (which in this part might be navigated by large ocean steamships), is Fort Good Hope, which is just outside the Arctic Circle. At this place—1,200 miles farther north than Winnipeg—excellent potatoes, cabbages, and onions are grown.

From Prince Albert on the North Saskatchewan (which is about 300 miles north of the international boundary) north 150 miles is Lac La Rouge, where there has been a Hudson Bay post and a Church of England mission for many years. Wheat has been grown successfully there for a number of years in succession, as well as all the ordinary garden vegetables. In the country 100 miles north of Lake Winnipeg and the North Saskatchewan, which the proposed railway to Hudson Bay will traverse, there is a great clay belt like that through which the Grand Trunk Pacific runs in New Ontario, estimated to contain at least 10,000 square miles, where all ordinary vegetables and hardier grains can be grown.

MINERAL RESOURCES ARE ABUNDANT.

There are yet other sources of wealth. About eleven years ago there was bored on the Athabaska, 170 miles north of Edmonton, a prospect hole looking for natural gas. The gas came in such force as to stop the operations, and this gas well, the largest known in the world, has been burning continuously ever since. Up and down the Athabaska, above and below this point, are remarkable deposits of tar sands, as they are called, which if utilized would furnish paving material in abundance. Moreover there are indisputable evidence of enormous wealth in petroleum, which in oozing out, as it has done through centuries, has caused these strange deposits. In the vicinity of the tar sands, along the Athabaska, are also extensive deposits of salt, where it can be taken from the surface in great masses, pure white.

Along the bank of the lower Mackenzie for many miles are great areas of burning coal. When the discoverer of this river, Sir Alexander Mackenzie, passed down, about 1789, the same coal was burning, and it has never stopped since.

The country is so large and so little known that no one could say what hidden sources of wealth there may be. In view of the development of Cobalt, which is not very far from the Ottawa Valley, from an unmarked spot in the wilderness seven years ago to the greatest silver-mining district in the world, it is difficult to predict the possibilities of this great unexplored country north of the Saskatchewan. Last winter in Ottawa the statement was made before a committee of the Senate, and by one well qualified to judge, that in the land north of Edmonton, extending down the Peace River, as far as wheat production is possible, there was a tract of country fit for settlement as great as that now settled west of Winnipeg.

ONTARIO HARDWARE TRADE.

PROMINENCE OF AMERICAN GOODS—EXTENT OF COMPETITION.

Consul-General John G. Foster, of Ottawa, forwards a report by Mr. James J. McBride, consular agent at Arnprior, concerning the hardware trade in the latter's district, based on information received from local Canadian firms. Following is a summary:

Of the imported hardware handled here, American goods predominate, followed by English goods. The foreign hardware, other than American, sold by the local merchants in any considerable quantities is: Blacksmiths' hardware from England, cutlery from England and Germany, glass from Belgium and England, guns from Germany, and ammunition from England and Germany. Granite ware of German manufacture is being introduced. From the United States are imported all kinds of shelf hardware, brass fittings, cordage, rifles and ammunition, nickel-plated ware, and builders' hardware. The most active competitors are English and German manufacturers. The former have the advantage of a preferential tariff of from one-fourth to one-third (usually the latter) off the general tariff; and the latter, despite the surtax of one-third of the general tariff, are pushing their goods on the market.

In general, American goods give satisfaction, with the exception of cutlery, which is pronounced of inferior grade. American brass goods, better-class locks, and nickel-plated ware are especially popular. The promptness with which orders are filled and good methods of packing are commended.

Few American houses send representatives over this territory. Trips are usually made only once a year, except in the case of one or two firms. A few English agents, usually selling paints and varnishes, and occasionally a French or German representative, visit this district.

METHODS OF INCREASING TRADE.

Nearly all the firms here expressed the wish to receive catalogues from American manufacturers. The lines most desired are general hardware, brass valves of all kinds, guns, paints, and scales. In this connection it should be noted that the duty has been removed from bona fide trade catalogues and price lists not designed to advertise the sale of goods by any person in Canada, when sent into Canada in single copies addressed to merchants therein, but not for distribution.

To increase their trade, or even to hold that already established, American exporters should deal more directly with the retailers, who understand the local markets. Moreover, the profits of the jobbers mean an increased cost to the consumer and handicap the sale of American goods. To cite an example, one firm informed me that not long since a representative of a jobbing house quoted some American goods which the firm had at the time in stock (imported direct) at a price at which the firm itself would sell these goods in reasonable quantities at a good profit. The large lumbering establishments in this district take considerable quantities of lumbermen's hardware annually, much of which is obtained through the local dealers. [A list of the principal hardware dealers of this district is on file in the Bureau of Manufactures.]

TRADE AND REVENUE.

HEAVY INCREASE IN IMPORTS—GOVERNMENT FISCAL REVIEW.

Consul R. S. Chilton, jr., forwards from Toronto the following newspaper statement giving the foreign trade of Canada for the year 1907:

During the twelve months of 1907 Canada's total trade amounted to $635,840,681, an increase of $45,895,877 as compared with 1906. The total imports were $362,515,267, an increase of $42,048,067, or about 12 per cent. The total exports were $273,325,414, an increase of $3,847,810, or less than 2 per cent.

Of the total increase in imports, $17,448,914 was in imports from Great Britain, $19,121,983 from the United States, $1,281,508 from France, and $984,886 from Germany.

On the other hand, Canadian exports to Great Britain decreased $8,713,849; exports to the United States increased $10,149,547; exports to France decreased $43,920, and exports to Germany increased $375,556.

Canada's total imports during the year from Great Britain were $95,094,488, and the exports to Great Britain were $126,347,931; imports from the United States were $215,245,100, and exports $117,536,998; imports from France were $9,501,052, and exports $1,872,424; imports from Germany were $8,049,884, and exports $1,872,659.

UNITED STATES.

EXPORTS OF MACHINERY—COMPARATIVE TRADE OF THE PAST TWO YEARS.

American manufacturers will be gratified to note the steady increase in the exports of machines and machinery, for it goes to prove that as foreign consumers become convinced of the superior adaptabilities of American machines to the uses for which designed they purchase them in larger quantities.

In the following statement, showing the exports for the calendar years 1906 and 1907, the total values of the several classes are given, and, in most cases, the leading countries to which shipped, which show that the countries most industrially advanced, even in the manufacture of machines and machinery, are the best customers:

Classes of machines and machinery.	1906.	1907.
Agricultural machines and implements:		
Russia	$4,673,243	$4,858,523
Argentina	4,703,622	3,588,769
France	3,070,048	3,586,222
Germany	1,864,699	2,598.047
British North America	2,917,129	2,515,489
Australasia	1,231,694	1,020.873
United Kingdom	1,086,674	932,727
Other countries	5,247,658	7,001,632
Total	24,744,762	25,597,272
Electric machinery:		
British North America	1,943,983	1,543,450
Mexico	1,049,097	1,551,562
Japan	960,146	1,411,209
United Kingdom	1,219,302	1,131,711
Brazil	580,494	979,730
France	276,750	848,711
Other countries	2,294,981	2,268,887
Total	8,274,753	9,735,230
Metal-working machinery:		
Germany	2,199,042	2,247,836
United Kingdom	1,594,591	2,112,896
France	987,186	1,380,788
Belgium	806,226	1,015,227
Italy	1,023,216	953,634
Other countries	1,312,064	2,432,459
Total	7,913,327	10,142,835
Sewing machines:		
United Kingdom	$1,733,089	$1,687,622
Germany	1,051,444	1,156,663
Netherlands	423,166	615,166
Brazil	330,439	541,306
Other countries	4,307,090	4,471,417
Total	7,845,228	8,472,176
Typewriting machines:		
United Kingdom	1,585,189	1,717,011
Germany	988,180	1,161,415
France	453,022	601,594
Mexico	373,152	360,545
British North America	269,044	284,979
Other countries	2,025,657	2,538,620
Total	5,694,244	6,664.164
Miscellaneous machinery:		
Engines and boilers	4,564,248	5,732,650
Locomotives	7,430,277	9,080,337
Laundry	652,231	711,912
Mining	2,837,240	6,125,951
Woodworking	936,288	1,386,361
Windmills	440,691	1,216,235
Printing presses	2,047,773	1,802,455
Pumps and pumping	4,122,703	3,722,847
Shoe	1,470,900	1,219,013
Cash registers	2,664,113	2,477,425
All other	26,360,175	26,698,009
Total miscellaneous	53,526,639	60,173,215
Grand total	107,998,953	120,784,892

WEST INDIES.

COMMERCIAL AND INDUSTRIAL CONDITION OF TURKS ISLANDS.

Consul Joseph A. Howells, reporting on the trade of Turks Islands, West Indies, writes as follows:

The colony for four years, 1903–1907, suffered from a depressed condition of the salt industry, which is the principal source of revenue to the people. The shipments of salt in 1905 amounted to 961,299 bushels, valued at $71,070, against 1,043,474 bushels, worth $69,469 in 1906. The estimated yield in 1907 was 1,800,000 bushels, one of the best seasons for many years, but the large yield was offset by the low price, several cargoes being sold at 4½ cents a bushel on board for coarse salt and 6 cents for ground or "fish" salt.

The average yearly merchandise imports of the colony for the five-year period, 1900–1904 was $143,799; those of 1906 fell to $134,179, while the average annual exports for the five-year period was $136,996, but in 1906 they dropped to $121,414. The exports for 1906 are classified as follows:

Articles.	Value.
Conchs	$2,521
Salt	69,469
Shells, turtle	8,604
Sisal fiber	27,277
Sponges	$11,767
All other articles	1,776
Total	121,414

TURTLE SHELLS AND CONCHS—SISAL GRASS CULTURE.

The shipments of turtle shells represent an important item in the trade of the colony. The turtle fishers come from Nassau, North Providence, hunt or fish for turtles and only ship a small part of the shells from the local ports, but carry the larger part to their homes, whence they are shipped to London. A law has been proposed requiring a license and designating a closed season until 1910. Conchs, which are to be found in the sea in great quantities, are taken and dried and sold in Hayti and Santo Domingo. Sometimes valuable pearls are found in the conchs and are sold at various prices up to $100.

The cultivation of pita or sisal grass is now of material importance. At present it is only cultivated on the Caicos Islands, some 3,200 acres being utilized for that purpose. In 1907 a large tract of land was leased on Grand Turks which was planted in pita. The plants are growing finely and by the latter part of 1908 cutting of the leaves will begin. All the fiber is shipped to New York.

The colony, with a population in 1901 of 5,350, is conducted on an economical plane. The total expenditures for 1906 was $30,454. There is a surplus invested amounting to $34,339. A direct cable from Halifax connects Bermuda, Turks Islands, and Jamaica. A daily bulletin is furnished by the company at a cost of $583 a year.

The summer of 1907 was marked by a severe drought, which caused considerable suffering, although of much advantage to salt makers. Usually about 25 to 40 inches is the rainfall, and this takes place in the winter months and in May.

BRAZIL.

MARKET FOR IMPORTED GOODS.

OPPORTUNITIES FOR INCREASED TRADE IN AMERICAN PRODUCTS.

Consul-General George E. Anderson, of Rio de Janeiro, furnishes the following information concerning the demands of the Brazilian market and the manner whereby the products and manufactures of the United States may be introduced there in larger volume:

In the line of standard or staple goods competition is too keen for the man away from the field to get any business. To attempt halfway work is to invite loss, and as a rule if business in Brazil can not be gone after on a considerable scale and with a view of securing a permanent foothold in the country, the field had better be left alone.

In numerous lines there is in Brazil a field for the sale of imported goods, and in nearly every line of manufacture the American exporter who secures a market in Brazil can be sure of the permanency of that market, assuming that he can meet competition and that he looks after his trade. At present Brazilian imports show special demands in the way of machinery of all kinds, electrical appliances, building materials, dry goods, office and household furniture, pharmaceutical products and accessories, hardware specialties, modern food products, and similar goods. The demand in all these lines is increasing, the imports of the country in the year closed showing an increase of about 25 per cent over the imports of the year before, with no indication of any halt in the development of the trade.

HOUSEHOLD AND OFFICE FURNITURE.

Heretofore there has been little done in the way of introducing American household or office furniture in Brazil, for several reasons. The shipment of furniture in its full bulk has been so expensive that, after duties are paid, the cost of the article to the consumer is prohibitive, and only fine furniture for special purposes has been imported, and this has been European. American roll-top desks and similar furniture are popular, but under present tariff and freight the cost is all but prohibitive. Since most American furniture manufacturers are now shipping their goods knocked down and in the white, I have no doubt but they will be able to gain a foothold and build up a satisfactory and lasting trade.

There could be a good sale of the higher grades of American iron beds, folding beds, davenports, sofas, lounges, and the like, but the goods will have to be introduced as something practically new to the Brazilian market. In general Brazilians run to light, highly decorated furniture; but that is due more to European models than to anything else. There is opportunity for the sale of gaslight novelties, portable oil stoves and similar goods. Already something is being done in this line, but the trade is not what it might be. In the way of office furniture something is being done in steel filing cabinets, and more can probably be done with a little pushing. All furniture should be made with a view of use in a hot, moist climate. Metal should be used when and where possible.

BUILDING MATERIAL.

In the line of building materials the United States has had little trade outside of the rougher articles. It has sent several million dollars worth of pitch pine annually for a good many years, and has dominated the market in turpentine. In prepared paints its trade has grown but little, even in spite of the preferential tariff favoring American paints. The market is a good one, and could easily be reached by American paint men. The matter of climate also should be considered in the paint trade, heat and moisture and not frost being the elements that are important.

Some American pressed brick have been sold for modern buildings in Rio de Janeiro, and the trade could be greatly increased. American building tiles are being introduced, but the preference so far is for the European article, chiefly because of freight considerations and because European manufacturers have agents on the ground. Nearly all the buildings in Brazilian cities are of stone and brick, solid, with practically no high buildings. It is probable, however, that the construction of two comparatively high buildings in Rio de Janeiro, now in course of erection, will lead to other buildings of this sort.

Nothing in the way of steel shingles seems to be known. I have seen some ceilings on the order of the American steel ceiling, but there has been no general introduction of them. There is a good opportunity in this line. Considerable iron and steel roofing is in use in some parts, but it is almost altogether of the sheet and corrugated order. There would be a good trade in galvanized iron materials if such goods were properly introduced. In the way of bathroom fixtures and plumbing supplies, few American goods are known and none are pushed. There is a splendid market for such goods. Kitchen sinks and fittings of the American style would also sell readily. Iron and steel beams are coming into use in building to some extent, but Belgium and Germany furnish most of them. American manufacturers have had no representation in Brazil to look after that particular line of business. There ought to be a good trade in iron and steel doors and shutters, fire doors and shutters, vault doors, and all similar goods, and for some forms of American drainage pipe. Water mains and pipes are used in constantly increasing quantities, but most of the goods come from Europe.

FOREIGN FOOD PRODUCTS.

American flour, lard, and bacon are again on the increase. Little is done in the way of tinned American meats, hams, and other products, because of the excessively high tariff duties. The United States has been sending a large quantity of codfish to Brazil annually for a good many years, but the Canadians are cutting into the trade, simply because American exporters have not paid proper attention to the requirements of the market. The trade in canned fish and canned fruits is small, because of the duties. Canned vegetables in the market are mostly from Europe, and are confined to two or three articles for the fine trade. Dried fruits are very high in price, but there is no reason why Americans should not have most of the trade, except that their European competitors have better steamship connections and can furnish goods more promptly and in better condition. With proper steamship service and cold storage American fruit men could supply Brazil with green fruit in what would be the best season in Brazil and the season of greatest plenty and least expense in the United States.

The demand for cotton-seed oil and its products is not fully supplied by the local cotton industries, and the use of American oil is constantly increasing. American common wines could unquestionably find a market here.

All food products for Brazil must meet the ever-present requirements of the hot, damp climate. Thorough packing and careful protection from climatic influence are not only the better policies in all cases, but in many cases are imperative.

DRUGGISTS' SUPPLIES—INDUSTRIAL MACHINERY AND HARDWARE.

Very few American pharmaceutical products are imported into Brazil, but there is no reason why this should be the case. There is an especially good field for tablet medicines. American patent medicines are commencing to do a good business, in some cases, although the number of remedies on the market is not large. Several lines of what may be called "medical foods" have a good sale, and many others could be introduced to advantage, such as malt extracts, condensed special foods, druggist sundries, toilet specialties, and similar goods. In standard drugs Germany and France seem to have the field, mainly because of their more intelligent development of the market. In dental supply goods, and in some articles among surgical instruments, American manufacturers have the lead and can maintain it with proper care. Enameled surgical ware is coming more and more into use, and the American products in this line ought to find favor. The list of goods of this class which would find favor with reasonable efforts to sell them in Brazil might be prolonged indefinitely.

In industrial machinery and hardware the imports from the United States have fluctuated in a way to demonstrate a total lack of care on the part of American exporters and of appreciation of the possibilities of the trade. There would be a first-class business in American cutlery if the trade were looked after. American kitchen ware is so much in favor that bids for supplies of such ware for municipal workmen's tenements were asked of American houses. Household ware of all sorts, such as metal washtubs, wringers, buckets, screens, small locks, and novelties, can be sold. The demand for American saws and tools of all kinds is already satisfactory where a reasonable start has been made. Articles like awning frames and appliances, metal signs, wire goods of all sorts, and even iron tanks can be sold, with an intelligent canvassing of the field.

There is a chance for the sale of machines for small plants of many sorts, like biscuit-making machines, laundry machinery, and woodworking machines of many kinds. The demand for engines is light, and, as electricity from water power is likely to be far cheaper in the near future than imported fuel, it is likely that the demand for power machinery will be confined almost entirely to electrical machines and water-power motors. There is a splendid field for water wheels, turbines, etc., all over South America. The industrial life of South America in the future is to center almost entirely about the development of its water power and the transmission of this power from falls to cities through electrical appliances. The sale of electrical appliances of all sorts ought to be pushed in Brazil immediately. The inauguration of electric-lighting services in a number of Brazilian cities within the past few months is soon to lead to an immensely increased demand for electrical specialties, lighting goods, small power plants, and everything of the sort.

There is also a splendid outlook for sawmill plants and all parts and appliances connected therewith, for water-power plants to be used with them, and for lumbering machinery and implements generally. In small industrial railway plants American manufacturers have a good share of the trade. In other industrial conveniences Brazil has been very backward. The use of wheelbarrows, for instance, is not yet common.

MISCELLANEOUS GOODS.

American paper and paper products ought to be more generally used. Pasteboard boxes and similar goods are being used more and more, and the prices obtained are such that native industries, which work upon a basis so costly that their existence would be impossible in almost any other country, are being developed. Articles such as stencils, pencils, pens, stationery supplies, etc., are in demand, and the United States sends a good many supplies of that sort. American school supplies are growing more and more popular, and many of the States of the interior are fitting up their model schools with American school furniture and appliances. Fireworks and firecrackers come from the United States or through the United States. Paper balloons and paper decorative novelties, calendars, lithographs, cheap pictures framed and unframed, are in good demand, coming mostly from Europe.

Jewelry is mostly of the French patterns and is widely used in Brazil. High-grade jewelry, diamonds, pearls, and semiprecious stones are handled in large volume. Standard mountings for jewelry are unduly expensive, as a result of the work being done largely in small establishments, and with unusually high-priced labor. Some of our manufacturing jewelers can secure a good trade in several of the Brazilian cities in their standard goods. Silver and plated ware is in good demand, and American exporters seem to have an increasing share in the business. Customs duties favor solid silverware and light-weight ware, and American exporters have not secured the trade they should in this line because of a lack of understanding of these points.

THE DRY-GOODS TRADE.

Aside from cheap cotton piece goods manufactured in the country everything worn by Brazilians of all classes is imported. There are a number of small articles in the American dry-goods trade which could be sold to advantage in Brazil, in spite of the decline of our piece-goods trade. A large number of notions could be introduced. Suspenders, garters, and other goods containing rubber are used comparatively little in many parts of Europe, and hence Brazilians also are not accustomed to them. Some American specialties in such goods could be profitably introduced.

In regard to millinery it should be remembered that in the days of the Empire the upper class wore hats, while the lower class was distinguished by the women wearing no hats, and this state of things may be said to be largely the case at present. There are many thousands of women in Brazil who have never worn a lady's hat of any kind. These class distinctions are gradually disappearing, and while the use of hats by the women of the middle class is not general as yet, it is becoming more and more so, and there is gradually being developed a demand for a cheap grade of hats, which American manufacturers are in a position to meet as well, if not better, than those of any other country. There is also probably a good trade in cheap ready-made clothing for women of this same class. These two lines of trade merit the immediate investigation of American manufacturers. American makers of knit cotton underwear ought to be selling more goods in Brazil than they are now selling.

The sale of curtains and similar goods is confined almost exclusively to those of light weight, the tariff being assessed upon the weight, rather than upon the quality or value of the article. The same rule applies to carpets, both wool and cotton. There are unquestionably many classes of fabrics and cotton and silk manufactures which American manufacturers could present to the public in Brazil with confidence and success. The loss of so much of the market in cotton goods is due to no other reason than inattention to the market.

MACHINERY NEEDS.

OPPORTUNITY FOR SALE OF PUMPS AND WELL-DRILLING EQUIPMENT.

Deputy-Consul-General Joseph J. Slechta, of Rio de Janeiro, writes that while the Brazilian demand for pumps and well-drilling machinery is as yet only a latent one, some facts recently called to his attention indicate that with very little effort this demand might be made to assume considerable importance. He therefore gives the following trade suggestions:

It will be of little avail to simply establish agencies in the larger Brazilian cities and expect a successful business to result. There are vast areas, well populated, within easy reach of rail and water transportation, where there is a great dearth of water supply for no other reason than that the inhabitants are actually unfamiliar with the principle involved in digging an ordinary well. The American geologist, John C. Branner, who has just completed a careful survey of a section of territory in the State of Bahia equal in extent to the State of Indiana, is authority for the statement that in that entire region there is frequently great suffering and destitution as a result of a scarcity of water, although an abundant supply would be available through the simple process of digging or boring a well.

Practically the whole of this section of the State, as well as other even more extensive districts, is essentially a stock country, and where running water is not available the inhabitants provide water for their cattle by digging a large rectangular hole, deep enough to tap a water supply. This hole is intended to serve as a sort of reservoir, being perhaps 12 by 16 feet in size and having on one side a gradual approach by which cattle may descend to drink from the pool formed at the bottom. The water of course becomes so bad that after a time only the most terrible thirst will induce cattle to drink it.

A progressive pump manufacturer who would send out a representative to work with local agents and instruct the inhabitants of this and many similar regions in Brazil in the simple process of sinking a drive-point well would be considered a wonder worker and would reap his reward in a good business. There are many more progressive districts of interior Brazil where a practical demonstrator with well-drilling machinery could create a most important demand for such appliances.

Modern progress and conditions will soon begin to supplant the three centuries old conservatism of millions of the inhabitants of interior Brazil and the earliest on the field with the means to hasten this awakening will profit most and will deserve success.

PERU.

COMMERCIAL OPPORTUNITIES.

DEVELOPMENT OF SOUTHERN TERRITORY OPENS UP AVENUES OF TRADE.

Special Agent Charles M. Pepper, writing from Arequipa, under date of January 20, furnishes in detail an interesting report on the importance of southern Peru as a commercial and industrial trade territory. He also reviews the opportunity for extending commerce in that country. His report reads:

Southern Peruvian markets are included in the zone that is bisected by the Southern Railway which runs from the port of Mollendo to Puno on Lake Titicaca, a distance of 330 miles with a branch line from Juliaca, 30 miles this side of Puno, to Sicuani and Checcacupe. The latter place is 150 miles from Juliaca and is the starting point of the Cuzco division, 70 miles in length, work on which has just begun. Ilo, a small port 80 miles below Mollendo, serves a limited local district without distracting from the commerce of Mollendo. Since the bulk of the importations for Bolivia also pass through the latter port it is second in importance only to Callao, and its Peruvian commerce alone would give it this rank independent of the Bolivian traffic.

POOR HARBOR FACILITIES.

There is no natural harbor, and recently a good deal of money has been wasted by bad engineering plans in attempting to provide an artificial one, but these mistakes have been corrected, and a breakwater is now under construction which promises to render serviceable the natural causeway that exists and to provide enlarged port facilities, including warehouse and railway yards. At the present time railway material and general merchandise are piled over several acres of space in the open at Mollendo, awaiting shipment over the Southern Railway, whose facilities proved inadequate for the freight that was turned over to it when the new era of railroad construction began two years ago. Lately some progress has been made in relieving the congestion, and the betterments of the railway, including new bridges, heavy enough for the locomotives that were ordered two years ago, give promise of further improvement. Meanwhile these hundreds of tons of freight piled up at Mollendo serve to give an excellent idea of the nature and the extent of the commerce of southern Peru.

The center of this commerce is the city of Arequipa, situated in the valley of the Chili River, a little more than 100 miles from the coast and with a population of 35,000. The products are agricultural and the local market is not in itself an extensive one, as production is limited to the Chili, the Tambo, the Vitor, and other narrow valleys. These valleys are very fertile; their area, however, being limited, the aggregate production is not large, and the number of inhabitants is small. Some sections are entirely uncultivated and unpeopled. The sandy pampa between the coast and the interior sustains no permanent population and can sustain none until irrigation makes it productive.

AREQUIPA A DISTRIBUTING CENTER.

Arequipa's commercial importance comes from its position as a distributing center, both for exports and imports. It is the headquarters for a number of strong commercial houses that are in close touch with both the United States and Europe, most of which combine both export and import business. Some of these firms have their headquarters in Lima, but others conduct all their foreign business directly with their European or American principals.

There are a number of local industries, including a cotton mill, woolen mills, flour mills, brewery, and soap factories, whose machinery is bought abroad. The most important of these industries is the cotton mill located at Huacho, a few miles out of the city, which produces the coarse cloth known as "tocuyo." This does not, however, fully supply the domestic demand. The export trade centered in Arequipa is based on the products of the mines and the distant rubber forests, the cocoa-palm leaf product, which is the basis of cocaine and its alkaloids, and wools and hides. The gold bullion from the Santo Domingo mines is shipped to Lima and minted there. The silver and copper ores go to the United States or Europe, according to the condition of the market, though for some time past most of these shipments have been to Europe. Fine alpaca wools are exported to the United States, but the ordinary grades of wool are marketed in England and Germany. The very fine vicuna wool is taken by France. Hides are sent to England. The rubber product is divided between the United States and Europe, the shipments usually favoring the United States.

IMPROVED TRANSPORTATION FACILITIES.

While Arequipa derives some importance from its export trade, its chief consequence comes from the import commerce which it controls. It is the center of supply, not only for the agricultural and mining districts which lie between the Pacific coast and the Lake Titicaca district, but also for the rubber country of the Madre de Dios and Beni rivers. In former years small quantities of supplies were packed in over the difficult trails by which the rubber was brought out, but with the means of transportation so limited the total volume remained very small. American enterprise somewhat unexpectedly shared the possibilities of this trade, which is yet in its infancy. The Inca Mining Company, after building a wagon road from the railway station at Tiripata to the Santo Domingo gold mines, received a liberal land grant from the Peruvian Government and undertook to continue the roads through the forest or rubber regions to navigable waters. An extensive system of wagon roads was begun five years ago, and while it is not yet completed, transportation facilities already have been provided for large districts, and a direct road opened to a navigable point on the Tambopata River, which is the chief tributary of the Madre de Dios. The company has placed a 150-ton steel frame stern-wheel steamer of the Mississippi River type, made in Chicago, on the Tambopata, and the traffic already developed has been surprising. It indicates great possibilities.

FINANCIAL AID FROM EUROPE.

Various companies holding rubber concessions from the Peruvian Government have been financed in Europe during the last two years. Probably the majority of them will have no better fortune than previous companies, but some of the recent ones appear to have sufficient capital to insure their success, and if they do succeed this means a further opening up of markets in this region, because in making the land grants the Peruvian Government has stipulated that roads shall be built as was done in the case of the Inca Company. But whether the new projects are successful or not the way has been provided for reaching a large body of consumers.

I am informed by those engaged in the trade that the "caucheros," who constitute the rubber camps of the Tambopata and the Madre de Dios districts, have proved very liberal buyers. Even at present prices the business of rubber gathering is profitable and the "caucheros" are able to continue their purchases. Their demand is for articles of good quality. Naturally, provisions of all kinds are most in demand, for bananas are about the only food product grown in the rubber regions, though later rice will be cultivated in some of the adjacent districts.

Chicago packing-house products early established themselves in favor, and they maintain their position. Canned goods, vegetables and fruits, relishes, and similar articles have a steady sale. California supplies a portion of the canned fruits, and most of the other canned goods are obtained from the Atlantic coast. There is a considerable importation of crackers and soda biscuits in tins. Textiles, particularly cottons, are bought in large quantities, but the United States has little share in supplying them, Manchester controlling this trade.

Aside from the new markets which have been opened in the rubber country and which promise further growth, the nearer districts, for which Arequipa is the distributing center, consume the customary variety of staple articles. Most of the railway material for the extension of the Juliaca branch line from Checcacupe to Cuzco is on the ground or has been contracted for, though later there will be need of additional rolling stock. The railway-construction camps are established and they add to the demand for general merchandise.

MINING DEVELOPMENT—OIL-DRILLING MACHINERY.

While some new mines are being prospected and old ones developed on a larger scale, the activity in the mining industry at this time is not marked enough to indicate large purchases of machinery. The most energy shown is in prospecting the placer deposits of the Province of Sandio, in the Poto district, with a view to the introduction of dredges following the use of traction drills which were brought from the United States to determine the value of the gravels. Some of the machinery used in the mines of southern Peru has been contracted for through local firms, but most of it is bought directly in the United States by the representatives of the mining companies, several of which have their head offices there.

A large quantity of oil-drilling machinery has been imported from the United States by the American company which is developing the Lake Titicaca fields. The existence of oil in paying quantities having been satisfactorily determined, the company is now seeking to create a general demand for petroleum as fuel, the high cost of fuel in both Peru and Bolivia offering encouraging prospects for the introduction of petroleum. Years ago the Southern Railway was provided with oil-burning locomotives, the supply coming from the Tulara fields in northern Peru. The failure of a regular supply from this source and other reasons caused the railway to return to coal, notwithstanding its expense. Now the use of oil for fuel is said to be again under consideration, though the change is not likely to be made soon. In the meantime a more immediate prospect would seem to be the use of petroleum by the steamers on Lake Titicaca. Further importations of oil-drilling machinery from the United States are, of course, dependent on the use of the Puno petroleum for fuel.

Some electrical installations have recently been made in southern Peru. One contract was secured by the London branch of an American company in competition with other American companies and with the German syndicate. Arequipa has a local electrical company which provides lights to the public street and private dwellings. The tramway system, which includes both passenger and freight traffic, is still operated by mule power.

OPPORTUNITY FOR EXTENDING AMERICAN SALES.

It is the opinion of a number of dealers with whom I have talked that in the districts which are served by Arequipa, a larger use may be found for some classes of American agricultural implements, though they do not hold out the prospect of extensive sales in the early future. Several firms in Arequipa keep American farm tools in stock, but no special effort is made to exhibit them. The products of the various valleys are semitropical, but cereals, alfalfa and hay are also raised.

Some of the owners of the large estates are quite progressive and have the latest improved farm machinery so far as it is suitable to the requirements of their land. Mowers and reapers are employed for the alfalfa and hay crops, but there is not a wide field for steam thrashers or steam plows. Not much of an attempt has been made to introduce the disk plow, but there is a good demand for ordinary plows, and this can be stimulated if the manufacturers' agents take pains to provide the means of demonstrating the way to use these implements.

The chacras, or farms, as a rule are small; generally the ground is hilly, and bullocks are employed instead of horses. Notwithstanding the usual talk about the preference of the cholos, or peons, for the pronged stick or wooden beam plow, I noticed in the farming districts around Arequipa a fair number of modern plows, particularly single-handle ones, and I am assured that this is true of other districts also. Where they have been introduced it has been done by the local dealers demonstrating their utility and the methods of using them.

In textiles and clothing of all kinds, Arequipa hardly can be said to be a distributing point for American goods, because so few textiles are imported from the United States for distribution. This trade is divided between England and Germany. Though the Peruvian cotton mills are now turning out bleached goods in addition to the coarse "tocuyo" cloths, this does not seem to have affected the Manchester trade. American boots and shoes are also less in evidence than in other parts of Peru, though some are shipped to the mines and to the railway construction and the rubber camps. The local boot and shoemaking industry appears to be an active one, but some of the American factories which have established a market in Lima might use that as a basis for getting a foothold in Arequipa.

RÉSUMÉ OF BUSINESS CONDITIONS.

Some general information regarding the markets of southern Peru and Arequipa as a trade center may be summed up as follows:

The majority of the leading houses are controlled by the Germans, and the increase of German commercial influence during the last two years has been so notable as to wake the conservative old English houses, of which there are several strong ones, out of their lethargy. The Kosmos steamship line, with its direct service from Hamburg to Mollendo, has helped to maintain a close trade connection.

The recent opening of a branch of the Banco Aleman Transatlantico was a recognition of the importance of the German commerce, which has been a gradual growth, and not a spurt of enterprise. The Italian colony is important, chiefly in retail trade. A number of Syrians and Armenians have built up a good business in Arequipa, and, in spite of opposition, they are spreading through the interior, but their trade is also of a retail character.

The American interests in Arequipa are not predominant in the local trade, but they are of decided consequence in that they represent the most important development enterprises of southern Peru, both mining and in the new commerce of the rubber country. Their predominance in mining and similar enterprises assures American supremacy in supplying machinery. But in view of the large investments of capital from the United States and of the development due to it, there is a question whether a full share of the general trade is obtained.

INFORMATION FOR AMERICAN MANUFACTURERS.

For the information of American manufacturers I forward a list of the leading houses with some other details regarding the business conducted and the lines of goods handled by them. [Names of business firms filed for reference at the Bureau of Manufactures.] In connection with this list the wide application of the term "general merchandise" should be understood. Special lines are the exception rather than the rule, and in most cases general merchandise includes machinery, hardware, dry goods, and other textiles, groceries and provisions, canned goods and even druggists' sundries. A single order from a local house or a merchant in the remote interior will include a score of diverse articles and for that reason the importing houses find it necessary to carry so miscellaneous a stock.

Goods are received both by way of the Straits of Magellan and via Panama, Mollendo being 1,900 miles from the isthmus. Heavy machinery and railway material are usually shipped through the straits because transshipment is avoided, yet there has been an increase of this class of traffic via Panama.

The Merchants' Line is the direct one from New York through the straits. The Lamport and Holt Line dispatches occasional vessels from the English ports and the Kosmos maintains a regular service from the German ports. Some shipments of American agricultural machinery have been made from New York to Hamburg or Bremen and then transshipment, the claim being that a better rate was obtained than could be had either via Panama or direct from New York through Magellan Strait.

In the present demoralized condition of the steamship companies which control the west coast traffic between Panama and Valparaiso, thirty days have to be allowed for mail between Arequipa and New York. An efficient steamship service would provide it in less than twenty days.

CHILE.

OPPORTUNITIES IN IQUIQUE.

GENERAL CONDITIONS FOR SELLING GOODS IN NORTHERN CHILE.

Consul Rea Hanna writes from Iquique, regarding the outlook for the increase of American trade in northern Chile, as follows:

The present seems to be an opportune time for the successful introduction of American goods. Agents of American exporting houses report that with very little effort they can place satisfactory orders, providing that terms similar to those offered by British and German firms are given.

The American manufacturers have been able to dispose of their wares in the States, and consequently have made very little effort to obtain orders from this region. In fact, I was told by a local American merchant that one of the large houses in New York told him that they would not take the trouble to fill his orders, as they could dispose of their products at home. This attitude may be all right for the present, but with the opening of the Panama Canal the west coast of South America will be a near-by field for American enterprise, and if an early start is not made to actively enter this market it may soon be too late. The merchants here will have established European connections of long standing; and habit has a strong influence on the placing of orders, particularly when relations have been satisfactory.

LOCAL MARKET REQUIREMENTS.

The British, German, and French firms pay a great deal of attention to export packing, and their goods seldom arrive in poor condition. The subject of packing is at present receiving much more attention than formerly from American shippers. It is very important, as there is hardly a harbor on this coast where freight does not have to be handled in lighters, and quite often in rough water.

The local importers are accustomed to obtaining credit from 90 days to 6 months after the receipt of goods. This would seem to be a condition of affairs which could be regulated by personal conference.

A representative not thoroughly familiar with the Spanish language can do little here, and he must be a capable man to be able to adapt himself to local conditions.

One of the most serious drawbacks to American trade in this country is the absence of banks clearing directly with New York. As an example, when the buying value of a Chilean paper peso, on London, was 11 pence, or 22 cents American gold, an additional 1½ pence was added for buying exchange on New York, making the value 25 cents, or nearly 14 per cent additional. When asked the reason for such a difference, the explanation was that they had to clear through London. This is one of the worst instances I have heard, but merchants are continually required to pay exorbitant rates on New York over the London quotations.

The chief product of this district is nitrate of soda. As many millions of dollars' worth of this is shipped to the United States, it certainly would appear that there is a good chance for American imports into Chile to balance the enormous debit which is thus created.

Of course local conditions can not be changed so as to be more advantageous to American trade without intelligent and concerted effort on the part of American exporters, but it is certain that just as soon as proper measures are taken the market will be found in a receptive condition for American merchandise.

IMPORTS OF COQUIMBO.

INFORMATION AS TO TRADE AT PORT OF NORTHERN CHILE.

Consul Alfred A. Winslow, of Valparaiso, in forwarding a report from Acting Consular Agent A. Baird Kerr, at Coquimbo, states that the development of that part of Chile seems to be rather in advance of most other portions of the country, and offers a good field for American goods. Mr. Kerr's report follows:

The imports of hardware are very numerous, as a great trade is done from this port with the north of Chile. Most of the goods are British and German, but principally British. Here, it is needless to say, there is ample room to establish a large trade with the United States. Visits are constantly made by British and German commercial travelers, which helps them to maintain their trade. American commercial travelers are very seldom seen. The goods imported are not confined solely to the cheap articles, but to a general variety.

The importations of glassware are principally of German make. A very large trade is done in this line, as the northern ports are also supplied from here.

Canned goods are principally supplied by Great Britain and France, although a large quantity of American goods is seen, mainly fruits, vegetables, and fish. Meats are not now imported, but a large business is done in lard, sausages, hams, fruits, and jams, which are almost wholly imported from Great Britain.

Dry goods are British and German, and only the cheapest of articles are required.

In lumber the United States can be said to have a monopoly of the trade, but a great deal of native lumber is supplied from the southern portion of Chile.

There is a large business done in farmer's and distiller's machinery.

There is certainly a large opening for American business, and, considering the fact that Chile is within easy reach, commercial travelers should be forthcoming. Freights are cheaper than they are from Europe, and this gives an advantage to American goods. The general custom with European manufacturers is to draw for value of invoice at 90 days' sight on receipt of goods, payable at the 90 days' sight rate for bills on London, and if American manufacturers adopted this system they should do good business down this coast. Some Italian and French firms draw at six months from date of invoice, payable with 90-day sight bills.

[Coquimbo importers of the various articles mentioned in the foregoing report are placed on record at the Bureau of Manufactures.]

DEMAND FOR PLUMBER'S SUPPLIES.

ADDITIONAL CITIES ARE PUTTING IN WATER AND SEWERAGE SYSTEMS.

In order to answer several inquiries relative to plumber's supplies and plumbing Consul Winslow reports that increased attention is being given the question of sanitation throughout Chile. Consul Winslow writes:

The National Government has taken an interest and has directed that a large number of the cities put in complete water and sewerage systems. This means a greatly increased demand for all plumber's supplies. Heretofore the demand for this class of goods has been limited to Valparaiso and Santiago, while from now on it will be much more general and the demand should soon be doubled. The Chilean people are, in the main, progressive and quick to grasp improvements that can be brought within their reach.

So far the United States has been supplying only a comparatively small part of this business, when the trade should really be ours. Where American-made goods are in use they are well received, but the trade has not been thoroughly worked. The United States supplied in 1906 only about 3 per cent of the lead pipe imported, which in all amounted to $24,577 United States currency, while of the bath supplies we furnished about 51 per cent of the $21,180 imported.

The other accessories of the plumbing business largely came from Europe, England taking the lead in such articles as brass tubing, valves, faucets, etc.

There is a good opening here for increased business in this line, and a list is forwarded of parties with whom it might be well for those interested to correspond. [The names may be obtained by business firms from the Bureau of Manufactures.]

GERMANY.

TRADE WITH UNITED STATES.

COMPARATIVE STATISTICS OF IMPORTS AND EXPORTS.

The importations into the United States from Germany during the calendar year 1907 increased more than ten million dollars over the previous twelve months, while the exports to Germany advanced more than thirty million dollars in the same period. The heavy advance in shipments to Germany was mostly in raw cotton, which was twenty-two million dollars greater than in 1906, and forty-one million dollars greater than in 1905. The German textile manufacturing industry has been making rapid progress, and the vast increase in the number of spindles and looms in the Empire demands a proportionately heavier supply of raw material, which only the United States is in position to adequately supply. This German textile prosperity during the past year was reflected in the greater sales of fabrics to foreign countries, shipments to the United States alone having advanced several million dollars.

Germany's purchases of American corn dropped from $12,164,347 in 1905 to $8,608,101 in 1907, but her takings of American wheat advanced from $2,200,452 to $11,750,242, and of American flour from $646,782 to $2,917,129. Shipments of copper to Germany also advanced by several million dollars.

AMERICAN MEAT EXPORT RECESSION.

The past year marked a great decline in the sale of American meats in Germany. This affected all items except canned beef. The exports in 1905 reached almost three million dollars, declined one hundred thousand dollars in 1906, and dropped to less than one million dollars in 1907. The following are the figures:

	1905.	1906.	1907.
Meats:			
Bacon	$1,298,468	$890,872	$106,787
Beef, salted or cured	1,018,567	1,140,077	302,962
Canned beef	100,736	210,898	234,820
Hams	90,265	84,650	9,650
Pork, salted	436,176	519,314	252,571
Total	2,944,232	2,845,811	906,790
Alimentary fats:			
Lard	18,366,015	17,600,508	15,202,721
Lard compounds	376,941	342,345	272,337
Oleo and oleomargarine	2,578,307	3,406,125	3,783,488
Butter	4,975	7,867	458
Tallow	346,113	523,887	614,347
Total	21,667,351	21,880,732	19,873,351
Grand total	24,611,583	24,726,543	20,780,141

AMERICAN MANUFACTURES IN GERMANY.

The total exports from the United States to Germany last year aggregated $274,371,365, the bulk of which was raw materials. The principal articles of American manufacture sold to the Empire, aside from foodstuffs which underwent processes of preparation for market, compared to the two previous years, were as follows:

	1905.	1906.	1907.
Agricultural implements	$1,474,145	$1,864,699	$2,598,047
Builders' hardware	772,381	959,091	1,083,588
Electrical machinery	115,902	101,192	98,389
Metal-working machinery	1,298,010	2,190,042	2,247,836
Sewing machines	1,021,873	1,051,444	1,156,663
Typewriting machines	882,145	988,180	1,161,415
Leather:			
Splits, sole, etc	1,322,123	1,799,140	1,151,461
Boots and shoes	393,357	373,368	603,345
Furniture	126,865	164,285	142,197
Total	7,406,801	9,491,441	10,242,891

IMPORTS OF GERMAN MANUFACTURES.

The imports of the United States from Germany last year reached a total of $161,117,970, consisting mostly of manufactured goods. Raw rubber from Hamburg figures at about three million dollars annually, potash fertilizer at a little more, and undressed furs average four million dollars annually, these constituting the largest lines of raw materials furnished by Germany to the United States. The leading articles of German manufactured wares sold in this country during the past three years are shown as follows:

	1905.	1906.	1907.
Cotton goods:			
Cloths	$543,376	$578,481	$588,703
Knit goods	5,945,807	7,267,617	8,384,830
Laces and embroideries	5,438,882	5,975,154	5,341,832
Silk goods	5,596,084	6,681,667	8,823,866
Wool dress goods	1,628,391	2,156,304	2,759,458
Wool cloths	1,338,422	1,844,488	1,769,493
Linens, etc	2,068,767	2,251,100	2,326,220
Gloves	2,024,215	3,407,565	3,850,030
Coal-tar colors and dyes	4,446,324	4,541,101	4,796,228
Furs, manufactured[a]	3,762,276	3,799,301	3,674,175
Earthen and china ware	5,042,605	5,135,918	5,585,580
Toys	5,011,465	5,949,411	7,112,891
Wines	1,359,812	1,480,794	1,448,340
Total	44,206,426	50,978,896	56,461,146

[a] Not including undressed furs.

FOREIGN TRADE REVIEW.

LAST YEAR MAKES A NEW HIGH RECORD—IRON PRODUCTS.

Consul-General Richard Guenther, of Frankfort, sends the following brief summary of the foreign trade of Germany in 1907:

The imports amounted to 66,008,671 tons, representing a money value of $2,108,500,000, whereas goods exported from Germany weighed 44,966,973 tons and were worth $1,694,700,000. The imports show an increase of $424,800,000 and the exports of $152,800,000 as compared with those for the year 1906. The total foreign trade of Germany for last year reached nearly $3,800,000,000, and is the largest in the history of the country. It should be remembered, however, that the great increase in its money value is largely owing to the great advance in the price of both imported raw materials and exported manufactures.

According to the published statement of the Association of German Iron and Steel Industries, during 1907 there were produced in Germany 13,045,760 metric tons (metric ton=2,204.6 pounds) of pig iron, which exceeds the production of the preceding year by 570,693 tons.

Germany's foreign trade in iron and ironware for the year 1907 comprised 3,452,202 tons exported, valued at $178,502,618, and 813,349 tons of $27,496,422 value of imported iron and ironware. Compared with the preceding year the foreign trade in this line shows a net increase of $6,256,546.

PRODUCTION AND IMPORTS AND EXPORTS OF COAL.

The statistical bureau of the Empire publishes the following data about the coal trade in Germany for the calendar year 1907, the table giving the output in metric tons (metric ton=2,204.6 pounds):

Stone coal	143, 222, 886
Brown coal (lignite)	62, 319, 802
Coke	21, 938, 038
Black coal briquettes (pressed lumps)	3, 524, 017
Brown coal briquettes	12, 890, 461

Germany's coal and coke production of 1907 increased by about 14,500,000 tons over that of the preceding year, but the output of brown coal was less by 1,610,000 tons.

In 1907 Germany imported 13,720,296 tons of black coal (nearly all from England), also 8,963,103 tons of brown coal (from Austria), 584,221 tons of coke, and 195,404 tons of pressed coal blocks. The coal exports of Germany last year consisted of 20,017,688 tons of black coal, most of which went to Austria, Holland, Belgium, Switzerland, and France; 3,790,642 tons of coke, mostly shipped to France and Austria, and 837,775 tons of pressed coal blocks, about half of which were sent to Switzerland.

TRADE WITH ITALY.

STEADY GROWTH, ESPECIALLY IN SALES OF GERMAN GOODS.

Consul Southard P. Warner, of Leipzig, states that Germany's trade with Italy showed an unusual increase during the year 1906, adding that the increase in 1905 was also large. He has compiled the following review covering a decade:

The following table gives the value of Germany's trade (not including the precious metals) with Italy for the five years 1902–1906 and also for 1896:

	1896.	1902.	1903.	1904.	1905.	1906.
Imports	$31,420,000	$44,980,000	$46,620,000	$44,480,000	$50,100,000	$57,360,000
Exports	19,900,000	29,850,000	31,180,000	33,630,000	38,940,000	54,950,000

As will be seen from the statement, Germany's imports from Italy in 1906 show an increase of $7,260,000, or 14.5 per cent over those of 1905. The exports show an increase of 16,010,000, or 41.1 per cent.

During the ten years, 1896–1906, the imports increased $25,940,000, or 83 per cent, and the exports increased $35,050,000, or 176 per cent.

The increase in exports was, therefore, comparatively, twice as great as the increase in imports.

The principal articles of export from Germany to Italy are the various products of the metal, textile, chemical, and leather industries. The large increase in the exports in 1906 was due chiefly to the shipments of machinery and parts thereof, locomotives, locomobiles, bar-iron, and car axles. Woolen goods, tar colors, woolen tops, and hard coal were also important articles of export.

COMMERCIAL INFORMATION BUREAU.

COOPERATIVE ORGANIZATION AMONG EXPORTERS TO PROMOTE TRADE.

Consul-General Richard Guenther, reporting from Frankfort, furnishes the following information regarding another cooperative movement in Germany toward promoting the Empire's foreign trade:

The great commercial associations and combines of Germany have prepared a plan for establishing a Foreign Trade Information Bureau, which, in the manner of the Bureau of Manufactures at Washington, is to answer inquiries concerning export matters and to supply information to German manufacturers, contractors, promoters, etc., so as to extend Germany's trade and interest sphere abroad. It is also intended to establish information agencies at foreign points which are expected to act in connection with the German consulates and the official experts attached thereto. The project as worked out has been submitted to the Imperial Government of Germany, and the Industrial League is charged with carrying it out. Business circles will soon be made acquainted with all details.

ITALY.

INCREASED IMPORTS, DECREASED EXPORTS—SHARE OF UNITED STATES.

Consul James E. Dunning, of Milan, forwards the following report on Italy's foreign trade for the first nine months of 1907, prepared by Clerk Siersdorfer, of his consulate. The report says:

The Milan custom-house supplies the following statement of Italian exports and imports for the first nine months of 1907, compared with the corresponding period of 1906:

Articles.	Imports.		Exports.	
	1907.	1906.	1907.	1906.
Spirits, drinks, and oils	$6,945,951	$5,915,811	$16,918,226	$18,071,102
Tobacco, drugs, and spices	8,943,748	8,327,864	913,637	975,959
Chemicals, medicines, etc	15,821,691	14,217,546	8,973,790	9,863,254
Dyes and tans	5,509,149	5,138,291	906,234	1,290,517
Hemp, flax, jute, etc	7,233,465	6,620,559	8,924,759	9,452,433
Cotton and cotton goods	51,189,603	42,480,523	19,279,313	19,672,062
Wool, horsehair, and fur	20,737,895	18,039,499	4,242,129	4,917,075
Silk and silk goods	27,776,715	26,560,380	88,079,230	100,924,793
Wood and straw	19,002,022	16,585,222	7,833,390	7,135,952
Paper and books	6,468,741	5,266,082	3,543,113	3,126,809
Hides and skins	13,193,073	12,751,248	5,408,946	6,173,826
Minerals, metals, etc	90,767,220	69,755,689	8,441,321	9,451,641
Vehicles	10,820,890	5,098,238	3,478,301	1,855,313
Stoneware, glass, etc	46,361,675	42,904,228	11,669,269	12,727,015
Rubber and gutta-percha	4,054,121	3,989,368	1,083,556	1,298,577
Cereals	40,323,880	48,512,313	34,426,321	27,967,980
Animals and their products	20,639,410	18,898,169	25,571,587	27,059,089
Precious metals and coins	4,981,457	3,586,787	7,353,480	5,763,699
All other goods	22,397,785	10,338,412	750,359	1,167,129
Total	423,168,491	364,981,229	256,825,961	268,906,225

Imports into and exports from Italy for the first nine months of 1907 are reported as follows for six of the most important countries:

Country.	Imports.	Exports.	Country.	Imports.	Exports.
United States	$56,341,332	$31,760,273	Austria	$35,296,033	$20,730,709
Germany	72,564,526	36,614,223	France	32,574,540	26,598,856
Great Britain	71,621,468	21,318,973	Switzerland	9,622,015	43,624,755

TRADE WITH SOUTH AMERICA.

Exports from Italy to South America for the first nine months of 1907 amounted to about 98,036 tons, whereas imports into Italy from that source were about 80,001 tons. Italy's exports to South America consist largely of wines, oils, fruit, medicines, hats, and cotton goods. Woolen goods, silk goods, furniture, books, metals, marble, sulphur, rice, chestnuts and other nuts, preserves, cheese, and sundries also seem to find ready sale in South American markets and are showing a steadily increasing exportation. Nitrate of soda from Chile forms one of Italy's most important importations from South America, 38,053 tons having been imported during the first nine months of 1907. Dyeing and tanning woods, coffee, hides and skins, cereals, raw wool, and fats form the bulk of the other importations from South America.

PURCHASES FROM THE UNITED STATES.

The following table shows Italy's imports from the United States, in weights and values, for the first nine months of 1907, as received by the consulate from official sources:

Articles.	Tons.	Value.	Articles.	Tons.	Value.
Cotton-seed oil	2,813	$325,784	Mineral phosphates	50,457	$486,939
Mineral oils	55,768	2,254,047	Stone and earthen ware, etc	4,515	219,634
Tobacco	9,456	2,245,555	Coal	9,951	53,847
Sulphate of copper	1,171	146,878	Rubber and gutta-percha	30	115,221
Solid paraffin	7,662	916,750	Cereals	169,480	6,062,009
Chemicals, medicines, etc.	10,447	523,416	Salted meats and lard	3,595	1,042,398
Raw cotton	123,757	32,005,962	Fish	2,699	442,742
Lumber	104,754	1,888,505	Pork fat	1,298	338,136
Shooks and staves	10,210	409,932	Other fats	3,544	465,130
Hides and leather	216	196,474	Sundries	537	75,849
Raw copper, brass, and bronze	7,894	3,351,831	All other goods		1,328,612
Raw lead	2,154	187,017			
Machines and parts	9,109	438,110	Total	591,854	56,341,332
Scientific instruments	235	771,614			
Automobiles......number	52	28,950			

SHIPMENTS TO UNITED STATES.

The following table shows Italy's exportations to the United States in values for the first nine months of 1907 as received by the consulate from official sources:

Articles.	Tons.	Value.	Articles.	Tons.	Value.
Wines	6,566	$732,435	Hemp, raw and carded	922	$194,737
Olive oil	8,875	1,802,041	Hemp, linen, and jute manufactures	1,151	334,083
Vegetable extracts	2,544	764,097	Cotton textiles	166	291,044
Calcium citrate	1,882	472,078	Wool and waste	58	28,178
Raw tartar	3,870	672,219	Horsehair	137	137,609
Chemicals, medicines, resin, perfume, etc	20,846	601,774	Raw silk and waste	1,512	11,818,548
Sumac	4,349	163,278	Silk ribbon and textiles	589	727,224

Articles.	Tons.	Value.
Other silk goods	61	$70,059
Furnitureand woodenware	1,016	282,758
Straw braid	501	340,066
Paper and books	471	292,395
Raw hides	681	228,705
Kid gloves and hosiery, pairs	173,000	80,867
Tanned hides and leather goods	4	12,159
Machines and parts	119	25,669
Automobiles .....number	39	170,612
Marble	49,714	800,950
Sulphur	4,043	74,691
Macaroni and flour	31,998	2,405,745
Oranges and lemons	93,299	$1,633,359
Dried fruits	2,840	565,876
Preserves	3,952	845,726
Tomatoes in cans	5,373	414,757
Cheese	3,437	1,320,313
Hats, unfinished	171	198,018
Hats, finished....number	2,312,600	748,261
Coral	32	148,224
Sundries	285	29,143
Art objects	....	292,202
All other goods	....	2,090,383
Total	251,464	31,760,278

Of the $31,760,273 worth of exports of Italy to the United States during the first nine months of 1907, a little more than half the total, or $15,998,625, was the value of the declared exports invoiced through the Milan consulate alone. Raw silk, which forms the largest item shipped from Italy to the United States, was, as usual, practically all invoiced through the Milan consulate.

As is shown by the first table of this report, the Italian exports decreased, while all imports, except one (cereals), largely increased. Importations of minerals, metals, etc., and cotton and cotton goods show the most marked increase. Machines form the bulk of the former importations. The increase in the importation of cotton goods is largely due to the limited capacity of Italian cotton mills. It is predicted that the importations of machines and cotton goods will decrease with Italy's future. If Italy's commercial progress continues at the present rate, within a few years the native manufacturers will be equipped to produce this stock themselves.

PORTUGAL.

A DESIRABLE FIELD FOR INCREASING AMERICAN SALES.

Consul-General Louis H. Aymé, of Lisbon, reports that Portugal imports annually more than $30,000,000 worth of merchandise in excess of its exports, which indicates that the country is one eminently desirable for American merchants and manufacturers to work in. He adds:

Intelligent individual effort is absolutely necessary for success. The only way in which business can be secured here is to have a representative on the ground who shall study the needs, fashions, and even fancies of their prospective customers and conform to these. It may be that American patterns, fashions, methods of packing, etc., are the best in the world, but if they are not what the Portuguese want, so far as he is concerned they are the worst in the world. The Portuguese does not want to be told or taught what he should use; he knows just what he wants. He will naturally make his selection from among those who offer him what he wants in the way that he wants it.

AN EXAMPLE OF WRONG METHODS.

This may be made clearer by an example: I lately persuaded an importer here to send an order to the United States for canned goods, hams, jellies, and other preserved foods. The order was very carefully made up and for each article a specified and well-known brand was indicated. Explicit instructions were given that these directions should be rigidly adhered to. A letter was received acknowledging the order and promising compliance therewith. Later, advice was received that the goods were shipped. After the arrival of the goods here, and after they had been passed through the custom-house and the duties paid, it was discovered that the shipper in New York had in no case followed the orders as to brands, but had purchased all of the goods from a single firm, one not known at all in Portugal, and gave as a reason therefor, in a subsequent letter, that by so doing he had saved considerable time and money to the purchaser. Possibly the goods sent were of as good quality as those ordered, which is doubtful, but even had they been, it would be difficult to persuade the Portuguese purchaser that they were. He is very much disgusted and it would be difficult almost to the point of impossibility to persuade him to repeat the experiment. If this gentleman had ordered from a French house, for example, twelve different brands, let us say, of green peas, in an order of two dozen cans, his order would have been exactly carried out. Americans can not secure trade of Portugal by trying to work off on it at sporadic intervals either inferior goods or surplus stock. To secure this market we must be ready to furnish regularly both as to quantity and quality just what this market desires and on the same as or better terms than it can secure them elsewhere.

SPAIN.

ORGANIZATION OF LARGE CONCERN TO PROMOTE AGRICULTURAL INTERESTS.

Consul-General Benjamin H. Ridgely makes the following report from Barcelona on trade combinations in Spain:

Syndicates have already been formed in the sugar, glass, alcohol, textile, and other national industries. The latest organization relates to agricultural machinery. Under the presidency of King Alfonso XIII, supported by an influential committee comprising ministers of the Crown and many of the largest landowners in Spain, a society has just been formed under the style of the "Sindicato Nacional de Maquinaria Agricola." Its purpose, as its name implies, is to disseminate and foster the use of agricultural machinery in this country, and with this object in view to unite under one controlling management the interests of all those engaged in the manufacture of either agricultural machinery or of those appliances used in preparing agricultural products.

The syndicate will have its headquarters at Madrid, and the capital will for the present be limited to about 1,000,000 pesetas (silver peseta now worth about 17¼ cents). Each firm joining the syndicate will be required to subscribe to a certain number of shares in proportion to the importance and extent of its sales. Preference will naturally be given to native industry, but the syndicate will, whenever necessary or advisable, also purchase foreign agricultural machinery and tools, so that this new enterprise may result indirectly in promoting the sale of American agricultural machinery in Spain.

DENMARK.

MARKET REQUIREMENTS FOR STEREOSCOPIC VIEWS TRADE.

Consul-General Frank R. Mowrer, in a report from Copenhagen, Denmark, says that the opportunities for the sale of stereoscopic views were never as good as at the present time, the general market for which he explains:

The conditions that make these opportunities are the great increase in travel for pleasure and instruction and the development of amateur photography. In a sense this is an age of collectors, of illustrated post cards, postage stamps, prints, varieties of bric-a-brac, rugs, furniture, etc. In the case of stereoscopic views their low price, endless variety, and instructive value can make them peculiarly attractive to collectors if properly brought to their attention.

The form and size of the view is important, and the stimulated interest it gives depends much on the distinctness and clearness of the photograph for perspective and the relative position of objects. Uniformity of size is essential to permit the use of one holder for a universal series, which can only give the merited popularity of stereoscopic views to collectors. This holder should be collapsible, made of a light metal, and should contain lenses carefully selected as to a uniform strength and not easily breakable.

The instructive value of these views and their use for educational purposes can not be estimated. If carefully prepared series of views of the "beaten tracks" through Europe were made no more popular souvenir at a low price could be offered to the tens of thousands of tourists who annually travel so extensively. They would always remain a source of instruction and pleasure to them and their friends.

Suitable series could easily be adopted to assist in teaching geography in the public schools, and as time passes their value would increase to assist in the study of history. For example, a series on Japan and Japanese life, the construction of the Panama Canal, the extensive developments in Brazil and Argentina would convey more accurate and intelligent impressions than chapters of descriptive matter.

[The consul-general names three Copenhagen firms which might become interested in the development of this trade in Denmark. Their names may be secured from the Bureau of Manufactures.]

JERSEY ISLAND.

CATTLE SHIPMENTS A SPECIAL FEATURE—IMPORTS AND EXPORTS.

Consular Agent E. B. Renouf, of St. Helier, in his report on the foreign commerce of Jersey Island, located in the English Channel, says:

During 1907 the number of Jersey cattle exported to the United States was 446, valued at $67,761, as against 241 head, valued at $30,265 in the preceding year. The island authorities continue to take the most stringent precautions against infection from the Continent of cattle diseases. Foreign cattle are not allowed to land and the imports of hay and straw from the Continent is prohibited.

There is no indication of tuberculosis among Jersey cattle. The Danes continue to make large purchases of relatively low-priced animals for dairy purposes, but the best grades find their way to the United States.

The value of the early potato crop exported during 1907 is stated to be $1,835,933, an increase of $335,934 over 1906. The total imports into the island during 1906 were valued at $5,225,818, against $5,306,-456 in 1905, while the exports therefrom amounted to $3,473,751 and $3,653,919, respectively, for the two years. The imports and exports of the principal articles, in quantities, are shown in the following comparative statement:

Articles.	1905.	1906.	Articles.	1905.	1906.
Imports.	*Tons.*	*Tons.*	*Imports*—Continued.	*Tons.*	*Tons.*
Animals: Horses	a289	a268	Salt	567	570
Breadstuffs:			Sugar	1,145	1,259
Barley	620	813	Timber	c133,302	c226,750
Bran	2,033	2,451	*Exports.*		
Buckwheat	333	230			
Flour	5,847	5,781	Animals:		
Meal, etc	541	1,042	Bulls	a109	a104
Oats	2,502	2,873	Cows, etc	a1,764	a1,819
Bricks	92	138	All other	a71	a64
Cement, etc	2,079	2,626	China stone	4,091	3,864
Coal	54,081	58,671	Coal tar	d192,400	d148,812
Eggs	164	175	Flowers and bulbs	188	189
Fertilizers	8,620	8,812	Gravel	4,852	4,486
Paraffin	b6,272	b6,073	Potatoes	48 182	52,422
Potatoes	3,220	1,841	Vegetables		289
Provisions	3,203	3,274			

a Number. b Barrels. c Cubic feet. d Gallons.

No American ship entered Jersey ports during the last year. In the absence of direct means of communication it is impossible to trace imported goods to their original source, but it is safe to say that Jersey absorbs proportionately to the number of its inhabitants (52,576) and their relative prosperity, at least as large a quantity of American products as a community of corresponding number and pursuits in England.

PERSIA.

IMPORTS AND EXPORTS AND THE COUNTRIES TAKING PART THEREIN.

The following information and statistics are compiled from a printed report of the British vice-consul covering the foreign trade of Bushire, the principal port of Persia, in the Gulf of Persia:

The imports and exports into and from Bushire during the years ended March 31, 1906 and 1907, from and to the principal countries, were as follows:

Countries.	Imports.		Exports.	
	1906.	1907.	1906.	1907.
United Kingdom	$1,567,825	$1,620,262	$450,710	$849,511
India	857,744	1,282,517	742,706	735,065
France	280,879	496,475	16,128	15,422
Austria-Hungary	150,069	326,575	15	1,898
Germany	127,513	123,896	51,414	117,905
United States	7,162	36,934	5,420	78,887
Other Countries	716,479	308,228	1,020,569	1,112,676
Total	3,707,941	4,198,887	2,286,962	2,912,216

The principal imports in 1907 were: Cotton piece goods, $1,775,975; loaf sugar and candy, $639,229; arms and ammunition, $156,940; cotton sewing thread, $66,111; matches, $51,225; drugs and medicines, kerosene, mercury, and hardware, copper bars, sheets, and wire.

Of the imports cotton piece goods amount to nearly 39 per cent of the whole, and of this import $1,345,354 worth was composed of British manufacture, imported direct from the United Kingdom, being equal to 75 per cent of the whole.

According to the British vice-consul, no less than 157 British steamers, with a total tonnage of 221,330 tons, cleared from Bushire in 1907, but the competition of other steamships caused the British lines to reduce their rates to the United Kingdom from $7.30 to $4.86 per 1,680 to 2,016 pounds or 40 cubic feet. Freight to Hamburg was also reduced. Freight per British lines to New York, by transshipment, is $9.30 for carpets and $8.28 for cargo.

DETAILS OF PRINCIPAL IMPORTS.

In relation to imports which should interest American exporters, the vice-consul writes as follows:

> One of the immediate effects of granting a constitution has been an increase in the number of news sheets and journals printed in the different towns of Persia. The paper on which these are printed is exceedingly poor in quality, and at one time during the year the publishers were hard put to find sufficient suitable material. Very large supplies of cheap gray and white thin foreign writing paper are in use.
>
> There was an increase of British piece goods of $94,000, and an increase of Indian piece goods of $292,000; this, however, is largely British piece goods transshipped at Bombay. White shirtings, 40 to 41 yards, still hold first place. In March, 1907, they stood at $3.24. They are followed by white mulls, 20 and 22 yards, chintz "Dubahrs," white, 65 yards, and chocolate, 60 yards, and Turkey-red twills, 50 yards. The print market up country is reported spoiled, to a certain extent, by Russian prints, but Shiraz is reported still true to Manchester. It is estimated that as much as 60,000 pieces, or 240 bales, of dyed piece goods have been imported during the past year into Bushire, three-fourths of which were mull or "Kasawari," as it is termed when dyed with indigo. Black Italians of good quality are coming into fashion for the "cheddars" in preference to black twills. Cheddars are the black outer garments worn by Persian women of all classes, which cover the head and descends to the skirts. This is an instance of the growing inclination of the better class Persians toward luxuries. The German and Russian agencies in Bushire have been busily employed in dispatching to Europe samples of British goods for imitation, but the imports of German and Russian piece goods have declined.

PRINCIPAL EXPORTS.

> In 1906–7 by far the largest proportion of the increased exports went to the United Kingdom. The rest of Europe, except France, increased their imports from Persia, and there is a noticeable extension of exports to the United States.
>
> There was great development in the exports of cummin seed, which is usually packed in bags of 168 pounds. Black seeds (Siah-dane) were in demand. These are used as ingredients for pickles, as well as possessing medicinal qualities.
>
> The export of almonds in 1906–7 is the largest on record. To save freight, almonds are shelled in the producing districts, almonds in the shell being seldom shipped. The prices in Bushire during the year were, approximately, $4.42 to $5.14 per 124 pounds for almonds in shells, and for almond kernels $1.05 to $1.22 per 6½ pounds. Dried grapes are now going forward to the United States.
>
> The commerce in gum tragacanth, known to the Persians as "Katyra," has sprung up within the last few years, and seems likely to take still further

hold in the population. There have been amounts, not unimportant, sent to the United States, Germany, and France.

The exports of drugs and medicines embrace rosewater, asafoetida, linseed poppy seed, licorice, sesame, madder root, gallnuts, salep, jujube, castor seeds, colocynth, oxtongue flower, and gunjide. The seeds of the latter are largely used for adulteration of opium, and have now, it is reported, reached half the price of opium. The export of opium advanced nearly $165,000 in 1905-6, but still fell short of the average. The British market proved much more satisfactory than the Chinese, and exports to London were $121,660. Licorice grows wild in abundance on the Marvdasht Plain, near Shiraz, but, owing to heavy transport charges, is practically left untouched.

The exports of raw and undressed goatskins are yearly growing. In March, 1906, the prices in Bushire ranged from $5.02 to $8.65 per 20 skins. These prices have gradually fallen to $3.20 and $4.40. Nearly all the export goes to India. A better knowledge and improved system of preparation for export have conduced to this increase, but the process still requires improvement whereby the demand would certainly extend to the United States.

CHINA.

SOUTHEAST MANCHURIA.

TRADE CENTERS OF DISTRIBUTION—DEVELOPMENT OF RESOURCES.

Vice-Consul-General Charles J. Arnell, of Mukden, who is in charge of the American consular establishment at Antung, furnishes the following report on the trade of southeastern Manchuria, especially the Yalu River region, and its probable future:

The centers of trade of southeastern Manchuria are Antung, Tatungkou, Fenghuangcheng, Takushan, Kuantien, Tunghuahsion, Huajen, Pingtingcheng and Hsiuyen. Of these places the three first named only have been opened to foreign trade; and only Antung, Tatungkou, and Takushan are seaports. While each of the interior cities has its own area of distribution and collection, these areas are all included in the spheres of trade of some one or other of the port cities through which the exports and imports of the former must naturally pass. The seaports, therefore, have the greatest opportunity for commercial growth.

FAVORABLE SITUATION OF ANTUNG.

As a trade center and as an influence in the development of southeastern Manchuria, Antung is at present by far the most important of these cities. Its sphere of trade extends northward to the headwaters of the Sungari, westward to Hailungcheng, and southward to Tatungkou, and includes the towns along the Korean side of the Yalu basin. The situation, 30 or 40 miles from the mouth of the Yalu, is rather favorable for shipping. Vessels drawing as much as 10 feet are able to reach it, while the largest steamers may anchor off Tasarugi Island 25 miles below the town, between which points goods are transported by lighter. A little dredging in the neighborhood of Antung should enable steamers now compelled to anchor amidstream to lie up against the bank and load and unload their cargoes directly. Steamships now run regularly to Chefoo, Tientsin, Dalny, Chemulpo, Fusan, Moji, and Kobe. Junks and other small craft ascend the river for a distance of 200 miles, supplying the bordering region. The Yalu, however, has the serious disadvantage of being closed to navigation during the four months of winter.

There are railway connections with Seoul, Chemulpo, and Fusan; and a light line, to be altered within two or three years to standard gage, connects with the South Manchurian Railway at Mukden.

RAILWAY CONNECTIONS AND PROPOSED EXTENSIONS.

The Korean Railway, which extends for a part or the whole of the distance to the same points which may be reached by water from Antung, is unable to compete with steamer transportation. The light railway to Mukden is worked to its full capacity, but owing to its inadequate facilities has only an insignificant share in the trade. The extension of the terminus of the Korean Railway from New Wiju (Korea) to Antung may possibly, if aided by some reduction in freight rates, render the railway freight traffic profitable, and should, in any case, considerably increase the small share of Antung trade now enjoyed by the Korean line during the four winter months when the river is closed to navigation. The production and consumption in north Korea is said to be an insufficient basis for a paying freight traffic for that portion of the Korean Railway extending between Pingyong and New Wiju, and the only other source from which it could be derived is Antung. With the present high transportation charges, however, the amount of traffic is so small as to be unprofitable. The passenger traffic over the Korean line to and from Antung is always considerable, but alone is not sufficient to make the enterprise reasonably remunerative. The construction of a railway between New Wiju and Yongampo, a town near the anchorage of the larger vessels trading with Antung, has been discussed. In this event the bulk of the goods now transported to and from Antung by lighter would probably be carried by rail, which should be as cheap and more prompt and satisfactory.

The bridge across the Yalu between New Wiju and Antung, which is expected to be completed within another two years, will be built off the Japanese concession at the latter place. If it is to be a closed bridge, as is said, it will prove a serious drawback to native and foreign trade at Antung, inasmuch as it would prevent steamers from anchoring off the Chinese town and proposed foreign concession. It is to be hoped that the authorities will either construct a drawbridge or select another site.

TRADE AND POPULATION OF ANTUNG AND TATUNGKOU.

The three leading exports of Antung, in the order of their importance, are timber, silk, and beans. The imports consist of cotton goods, petroleum, flour, sugar, cigarettes, and miscellaneous articles. The value of the annual trade of Antung is estimated at about $8,000,000, the exports and imports being about equal.

The permanent population of Antung comprises between 15,000 and 20,000 Chinese, 6,000 Japanese, 20 Europeans and Americans, and a number of Koreans. There are 110 Chinese, 15 Japanese, and 3 occidental business firms or agencies of importance, while the Hu

Poh, or Chinese Government bank, and three Japanese banks have branches in Antung.

Tatungkou is situated south of Antung about 15 miles from the mouth of the Yalu. Vessels trading there anchor some 4 miles from the town, and the goods are carried back and forth by lighter over a mud creek. Steamships running between Antung and Chefoo usually stop at Tatungkou en route. The sphere of trade is comparatively small. The exports and imports of Tatungkou are of the same nature as those of Antung. Its present trade is valued at somewhat less than $1,000,000 annually.

This town formerly had a larger trade in timber than Antung. Since the late war, however, and the subsequent organization and activity at Antung of the Japanese timber bureau the trade in lumber has become concentrated almost entirely at Antung. The Chinese population of Tatungkou is about 6,000. There is a small Japanese colony consisting mostly of petty dealers in miscellaneous articles.

Fenghuangcheng lies about 40 miles to the northwest of Antung, and is connected therewith by road as well as by the light railway running to Mukden. Situated within the sphere of trade of Antung, it is merely a center of distribution and collection for its own immediate vicinity, and its present business is insignificant. Fenghuangcheng was founded for political, not commercial, purposes, having been the capital of the intendant of the Eastern Marches, the administrative official of the Yalu region, until the recent removal of the seat of government to Antung. There is no likelihood that Fenghuangcheng will, even with the fullest development of southeastern Manchuria, attain any considerable commercial importance. The total population is about 18,000, including 200 Japanese.

COMMERCIAL IMPORTANCE OF TAKUSHAN.

Takushan, situated southwest of Antung, on the Tayang River, about 7 miles from its mouth, was founded some one hundred and twenty-five years ago by merchants from Shantung, Shansi, and Canton, who were attracted by the timber and silk resources of this region; and until the later establishment of Tatungkou, with the almost immediate diversion of the timber industry thereto, was the most important commercial port in southeastern Manchuria.

Steamers of any size may anchor off the river mouth, and their cargoes may be loaded and unloaded by junk or lighter. The river is open to navigation throughout the year. It is said that the short stretch of river between the town and the sea could be dredged with comparatively small expenditure, so as to enable vessels to anchor off the town. Steamships at present ply between that port and Chefoo, Tientsin, and Dalny; most vessels trading with Antung stop there en route.

Takushan is connected by cart roads with Tatungkou, Fenghuangcheng, Hsiuyen, and Kinchou, which at present constitute its only routes of communication with the interior. The sphere of trade of Takushan contains not only some mineral wealth, but also extensive silk and agricultural resources. The percentage of arable land is larger than in any of the regions dependent upon the other marts of southeastern Manchuria. The exportation of beans and bean cake is said to equal that of Antung and Tatungkou combined. The present trade is about equal in value to that of Tatungkou.

The population of Takushan is given as between 8,000 and 10,000. Although the town has not been opened to foreign trade, a considerable Japanese colony has for some time been settled there, engaged chiefly in the exportation of bean cake and the importation of Japanese miscellaneous goods. The absence of a màritime customs house like those at the open ports obviates the necessity of paying the usual duties leviable on foreign imports and exports, a condition which can not but result in placing goods handled in the regular way at a considerable disadvantage.

THE RAILWAY A FACTOR IN FUTURE DEVELOPMENT.

The interior towns must under ordinary circumstances continue to be no more than centers of distribution and collection for limited areas of a sparsely inhabited territory. With the future extension of the railway throughout southeastern Manchuria, however, the trade areas of the towns which it touches will naturally expand, and with the opening of mines the towns in the surrounding region will be likely to increase in importance. The factor which will exert the greatest influence on commercial development is the railway. The only railway at present projected through southeastern Manchuria is the standard-gage line to replace the present Antung-Mukden road. According to the provisions of the Japanese additional agreement of 1905, this will be built and operated by Japan, with the right reserved to China of buying it over at the expiration of fifteen years from the date of its completion. The route, as yet undecided, will be influenced by two considerations: (1) Whether the greater utility to be sought shall be strategic or commercial; and (2) the amount of capital available for construction purposes. Various routes have been suggested: Antung (1) via Fenghuangcheng to Mukden; (2) via Fenghuangcheng to Liaoyang, or some point between Liaoyang and Tashihchiao; (3) via Takushan to Kinchou; and (4) via Tunghuahsien to Kirin. When completed the railway will have an important part in the trade of Antung and in the development of the dependent region. Others will probably sooner or later be undertaken.

TIMBER THE CHIEF PRODUCT EXPORTED.

The three exports which form the basis of the present trade of southeastern Manchuria are timber, silk, and beans. The mineral resources are as yet practically untouched. Tobacco, cotton, indigo, opium, hemp, and medicines are also exported, but in such small quantities as to be insignificant. Timber is the most important product of southeastern Manchuria. The resources are extensive, and with proper methods of reforestation should furnish a timber supply for many years. Timber is largely exported from Antung, small quantities also going from Tatungkou. Most of it is shipped to Chefoo, Tientsin, Dalny, and other Chinese ports, very little being sent abroad. Yalu timber is too poor in quality and high-priced to be imported into Japan in competition with the local product, while Korea supplies its own demand from the eastern bank of the river.

The average annual output thus far has varied between $2,500,000 to $3,500,000 worth.

The forests which supply the timber are along the upper parts of the Yalu River and its tributary, the Hunchiang, at distances varying from 200 to 400 miles from Antung. The logs are floated from the camps to the market in rafts. The principal kinds of timber felled are pine (Chinese, hunsun), fir (shasun), larch (buanghuasun), walnut (chiumu), cassia (tuanmu), oak (tsomu), and elm (yumu). Pine and fir constitute the larger part of the output. Oak, the only kind of Yalu timber for which there is a present foreign demand, is rather scarce.

The general character of the present product is inferior, most of the logs containing numerous knots, and many of them being extremely fissured. With the improvements in conducting the industry certain to take place in the future, these defects may in a measure be overcome.

PROPOSED CHINO-JAPANESE COMPANY—OTHER ENTERPRISES.

Until a few years ago the timber industry was entirely in the hands of Chinese, who paid a small tax to the Government for the privilege of cutting. The Russians some time before the late war made arrangements to secure certain amounts of timber for construction purposes at Dalny and Port Arthur. Japan in 1905 concluded an agreement with China providing for the future organization of a joint official company to exploit the timber resources of the Yalu. Negotiations have been protracted because of misunderstanding regarding the terms, but it is believed that the company will be organized in time to commence operations on the opening of the Yalu River next spring. The capital will be wholly official and will be furnished by the two governments equally. The headquarters of the company will be at Antung. The cutting and the sale of the timber will, it is said, be conducted in part directly by the company, and, in part, let out by bid or as a monopoly to private firms. The improved methods to be used in the industry are likely to result in a considerable increase in output as well as in a better quality of product.

The timber at present commercially exported from Antung is practically all in log form. The Japanese have erected two sawmills of small capacity, one at Antung and the other at New Wiju, but the output is used almost wholly for local or official purposes. It is probable, however, that sawmills will before long be established both by the company and by private persons, and that the timber will in the near future be exported largely in sawed form, at a correspondingly increased value. The erection of a paper factory is also contemplated. The Yalu seems well-fitted to become a shipbuilding center for small coastwise vessels such as are able to navigate the river. Wood and iron are both available in plentiful quantities. There is a point a short distance below Antung considered suitable for that purpose.

SILK PRODUCTION—BEANS AND BEAN-CAKE.

The product next in importance to timber is wild silk (tussah). The value of the average total annual production is estimated at between $2,000,000 and $3,000,000. The product is marketed in the form of thread, cocoons, waste, and cloth. Little cloth, however, is manufactured here, the weaving being done at the Chinese ports to which the thread is exported. The thread is largely shipped to Shanghai, whence it is distributed to other Chinese ports and to some extent to America and Europe. Chefoo is the principal market for the cocoons and waste; while most of the locally woven cloth is bought by the Japanese. The present market values are: Thread, 9.6 to 10.4 cents per "liang" (=1.3 ounces); cocoons, 40 to 41 cents per 1,000; waste, 8 to 16 cents per catty (=1⅓ pounds); and cloth, $2.50 to $5.50 per roll of 20 yards.

The silkworm is reared on the leaves of two species of trees, a scrub oak and the Chingkantzu, which grow wild on all the hillsides of southeastern Manchuria. The chief centers of production are Kuantien, Tunghuahsien, and Hsuiyen; but the industry is carried on to a greater or less extent throughout the whole region. There is still room for a considerable increase in output, and as soon as the remoter parts of the country are brought by rail into closer contact with the markets, there should be a marked expansion of the industry.

The value of the annual production of beans and bean-cake is estimated at between $1,500,000 and $2,500,000. The bean-cake is largely exported to Japan, and the beans to central and southern China. Except by the construction of a railway to Kirin, which would bring the valley of the upper Sungari within the sphere of trade of Antung, there will be little opportunity for an increase of the value of the bean output.

MINERAL RESOURCES—PROBABLE FUTURE DEVELOPMENT.

The latent resources of southeastern Manchuria are minerals, which are believed to be valuable and may in time become the most important output of this region. Gold, either quartz or placer, has been found here and there throughout the whole territory; silver is present principally in the vicinity of Fenghuangcheng, Tsaohokou, and Saimachi; and valuable copper deposits have been discovered near Tunghuahsien and Maoerhshan. Large beds of anthracite coal in the region of Penhsihu, and others of a quality not yet determined at various other points, contain the necessary supply of fuel for the operation of smelters which may in the near future be established in connection with gold, silver, and copper mines. Although a part of the capital for the development of the mineral resources will doubtless come from the inhabitants, the amount thus available would be insufficient for conducting the enterprise on a scale commensurate with the extent of the resources.

Such direct benefits as will be contributed by the development of the mineral and timber resources under the conditions described, together with those which will come from the probable increase in silk and bean production, assure a good future for the trade of southeastern Manchuria.

COMMERCIAL REVIEW.

TRADE OF THE THREE LEADING PORTS OF THE NANKIN DISTRICT.

Consul James C. McNally, of Nankin, furnishes the following report on the foreign and coastwise trade of the three leading Chinese ports of his district for the third quarter of the years 1906 and 1907, the principal articles being:

Articles.	Nankin.		Chinkiang.		Wuhu.	
	1906.	1907.	1906.	1907.	1906.	1907.
IMPORTS.						
Bags ....pieces..			199,720	136,700	775,940	1,087,250
Copper ....pounds..	380,838	1,567,587			256,610	2,799
Cotton manufactures:						
Cambrics, etc....pieces..	1,993	4,182	7,280	13,200	8,870	6,429
Cloth, all kinds, etc.do....	1,576	1,827	17,851	14,033	1,320	2,370
Drills—						
American .....do....	17,807	8,773	47,220	18,980	8,176	5,615
Dutch ....do....	30	60	720	180	120	1,169
English..........do....	480	1,320	3,855	5,385	8,285	5,140
Flannel ....do....	2,679	2,694			2,840	4,836
Jeans—						
American .....do....	1,000	900	3,406	2,660	1,520	240
English..........do....	7,660	5,350	11,980	14,135	12,355	24,116
Sheetings..........do....		20	17,775	14,230	540	420
Shirtings—						
American .....do....	3,520	6,200	6,655	5,400	6,110	6,975
English..........do....	27,488	42,697	129,763	180,132	81,298	41,691
All other ......do....	150	1,150	1,524	900	25,610	41,074
Yarns ....pounds..	158,093	390,703	3,817,703	5,879,830	1,256,686	1,828,343
Glass, window ....boxes..			1,122	1,458	702	865
Iron and steel, and manufactures of:						
Bars..........pounds..	80,913	99,042	348,980	410,831	42,789	30,259
Nails, and nail rods.do....	40,057	48,788	1,225,827	782,471	125,969	128,235
Sheet and plate ...do....	40,257	37,857	58,320	35,991		
Wire..........do....	3,466	3,199	85,445	94,376	46,255	50,521
Matches..........mille..	53,100	31,650	1,083,700	561,250	185,850	174,100
Needles..........gross..	4,611	5,097	28,032	40,470	15,450	15,300
Oil (kerosene):						
American ......gallons..	245,000	375,000	1,466,000	2,061,525	823,900	1,001,000
Sumatra..........do....			35,000	354,886	69,500	72,000
Opium ....pounds..	33,150	46,241	93,551	103,820	64,660	126,542
Sugar..........do....	2,284,896	1,415,380	39,762,324	31,634,789	8,397,920	11,815,147
Woolen and cotton mixtures, cloth, and stripes...yards..	6,053	1,385	9,004	14,079	18,719	15,837
EXPORTS.						
Beans and pease ...pounds..	103,041	171,157	7,849,637	149,963	23,994	17,462
Feathers..........do....	36,924	7,065				
Flowers ....do....			3,711,739	2,576,156	167,568	79,960
Hemp ....do....	1,462,701	11,351			178,222	69,849
Hides..........do....	7,465	6,265		3,999		
Rice..........do....			4,347,447	143,697	51,906,087	82,179,651
Seeds..........do....	29,826		2,621,079	1,876,464	8,381,821	6,488,244
Silk, and manufactures of, pounds..........	73,460	200,784	159,273	182,888	201,550	318,587
Tea..........pounds..	267	1,466			115,581	115,971

The exports from Chinkiang also included 5,993,835 pounds of groundnuts in the three months of 1906 and 1,491,227 pounds in the corresponding period of 1907; also 2,019,096 and 2,142,664 pounds of oils were exported during the comparative periods. The exports of flour from Wuhu increased from 1,280,480 pounds in the 1906 quarter to 4,192,818 pounds in the three months of 1907.

The number and tonnage of vessels entered and cleared at the three ports during the third quarter of 1907, as compared with the corresponding period of 1906, was as follows: Nankin, 861 vessels of 686,011 tons, against 606 vessels of 543,978 tons; Chinkiang, 1,979 vessels of 935,867 tons, against 1,415 vessels of 855,580 tons; Wuhu, 879 vessels of 799,445 tons, against 672 vessels of 760,619 tons.

KOREA.

CONTINUED EXCESS OF THE IMPORTS OVER THE EXPORTS.

Consul-General Thomas Sammons, of Seoul, advises that the foreign trade of Korea for the eleven months ending November 30, 1907, aggregated approximately $25,442,723, details of which follow:

Of the total the imports were $18,137,370 and the exports $7,305,353. The total business of Korea for a like period in 1906 was $2,632,307 less in imports and $3,159,043 less in exports. The high price of rice was largely responsible for the increase in the aggregate trade returns for 1907. For many years the balance of trade against Korea has been very high. This unfavorable condition has been overcome in but few instances in recent years.

The exports of gold are not included in the totals for the eleven months of 1907 referred to. Including the gold exports, however, the imports would still be twice the aggregate of the exports.

JAPAN.

COMMERCE OF YOKOHAMA.

VALUE OF TRADE—DISTRIBUTION BY COUNTRIES—MARITIME STATISTICS.

Consul-General Henry B. Miller, of Yokohama, reports on the foreign trade of that important Japanese port as follows:

The total foreign trade of Yokohama for the calendar year 1907 amounted to $187,316,583, against $174,958,876 in 1906 and $167,150,752 in 1905. The value of the imports and exports for the three mentioned years was:

	1905.	1906.	1907.
Imports	$94,358,206	$74,535,174	$85,406,636
Exports	72,792,546	100,423,702	101,909,947

The leading importing countries in their order named were the United Kingdom, United States, Germany, China, British India, and Dutch India, while the principal countries of export with their ranking were the United States, France, the United Kingdom, Italy, China, and British India. The volume of trade between Yokohama and the several countries during 1907 is shown in the following statement:

Countries.	Imports.	Exports.	Countries.	Imports.	Exports.
United States	$15,594,669	$52,659,738	Straits Settlements	$342,961	$565,381
France	1,401,785	19,082,769	Dutch India	3,703,705	245,521
United Kingdom	26,134,045	6,360,174	Hongkong	189,619	1,134,960
Germany	11,249,566	2,111,873	Canada, etc	387,027	952,751
Belgium	3,084,340	409,219	Australia	3,187,852	1,211,681
Italy	242,396	6,122,259	French Indo-China	1,747,085	38,739
Switzerland	793,420	29,701	Other Countries	4,964,987	4,830,249
Austria-Hungary	202,196	45,749			
China	6,340,941	3,788,673	Total	85,406,636	101,909,947
British India	5,920,132	2,870,510			

PRINCIPAL IMPORTS AND EXPORTS.

Of the articles of import into Yokohama in 1907, raw cotton ranked first, with a value of $7,196,049, against $4,581,588 in 1906 and $7,168,886 in 1905. The next import of importance was raw wool valued at $5,287,615, as against $3,183,024 in 1906 and $3,062,762 in 1905, which was followed by rice worth $5,539,734, $6,303,727, and $11,912,939 for the three years, respectively. The other leading articles of import were flour, sugar, kerosene oil, manufactures of iron and steel, and cotton manufactures. The chief article of export was tea, the value of which was $77,477,111 in 1907, $71,530,273 in 1906, and $55,453,420 in 1905. The following statement shows the value of the principal articles of imports into and exports from Yokohama during the three mentioned years:

Articles.	1905.	1906.	1907.
IMPORTS.			
Cotton, and manufactures of:			
Raw	$7,168,886	$4,581,588	$7,196,049
Prints	80,438	169,454	175,279
Satins	305,016	251,033	332,804
Shirtings	2,032,745	2,045,518	1,901,822
Velvets	229,968	185,259	259,434
Yarn	605,322	1,740,855	715,974
Fertilizers	911,054	679,723	1,208,094
Flour	2,384,626	1,819,166	1,352,080
Glass, window	322,339	586,425	391,640
Iron and steel, and manufactures of:			
Bar and rod	1,698,125	1,157,600	1,807,124
Galvanized	829,265	917,109	1,637,829
Pig and ingot	1,001,438	456,671	306,676
Pipes and tubes	475,991	502,521	718,223
Plate and sheet	1,180,175	831,597	1,755,648
Rails	272,800	430,960	816,983
Nails	713,706	546,318	857,846
Leather, sole	3,260,614	439,153	867,170
Oil, kerosene	1,916,738	1,640,440	2,096,557
Rice	11,912,939	6,303,727	5,539,734
Sugar	2,698,239	4,886,093	3,790,674
Wool, and manufactures of:			
Raw	3,062,762	3,183,024	5,287,615
Cloth, etc	4,947,865	4,136,988	1,813,947
Yarn	2,008,047	399,304	1,642,426
EXPORTS.			
Copper, refined	1,558,227	3,711,832	3,982,728
Lacquered ware	429,270	565,873	526,697
Oil, fish	297,878	455,581	947,171
Porcelain, etc	316,739	400,378	376,246
Silk, and manufactures of:			
Raw	35,970,193	49,720,725	58,052,995
Handkerchiefs	2,414,296	2,717,543	2,569,479
Tissues	14,281,387	16,552,755	14,099,135
Waste	2,787,544	2,539,250	2,775,502
Tea	3,271,540	2,726,602	2,855,099

The number of vessels entered at the port of Yokohama during 1907 was 1,195 of 3,489,822 tons, as compared with 1,062 vessels of 3,276,949 tons in 1906, and 924 vessels of 2,847,031 tons in 1905. The vessels cleared in 1907 numbered 1,110 of 3,303,096 tons; in 1906, 1,052 of 3,240,973 tons, and in 1905, 894 of 2,760,303 tons.

NEW PORT OPENED.

FOREIGN TRADE MAY NOW BE CARRIED ON WITH OMUTA.

Consul George H. Scidmore transmits an article from the Nagasaki Press relative to the opening of the Japanese port of Omuta, in the Gulf of Shimabara, Kyushu, in April, when the new harbor will be completed, from which the following extracts are taken:

The new harbor is divided into two sections—inner and outer—with areas of 40,000 tsubo and 150,000 tsubo (33½ and 125 acres), respectively. A breakwater, 12,000 feet in length, will inclose the outer harbor, with the exception of a gap of 450 feet to allow vessels to pass. The two sections will be divided by locks, 66 feet in breadth, by which means the inner harbor will be kept free from the great tide fall, 18 feet, a depth of 28 feet being the minimum maintained.

Three steamers of 10,000 tons each can be loaded simultaneously in the inner harbor if necessary, 7,000 tons of coal being shipped daily.

The works are being carried out by the owners of the famous Miike collieries, for the purpose of saving the cost of transporting the coal to Kuchinotsu for shipment. At present the cost to the company of shipping the coal is 1 yen (50 cents) per ton; as the output for last year is estimated at 1,400,000 tons it represents a considerable outlay. The company expects to place the coal on board at Omuta for about 50 sen (25 cents) per ton, so that the saving effected will probably be well over half a million yen ($250,000) per annum. The new harbor works were estimated to cost 3,000,000 yen ($1,494,000); it is therefore expected that the outlay will be saved in about five years.

The dispatch from Tokyo states that other Kyushu ports will be greatly affected by the opening of the new harbor. Kuchinotsu as a coaling port will practically cease to exist, but we can not understand how other ports in the island will lose trade, as there is no reason to believe that Omuta will become a port for general trade.

STRAITS SETTLEMENTS.

AN IMPORTANT MARKET FOR AMERICAN MANUFACTURERS TO DEVELOP.

Of the world's greatest seaports Consul-General Thornwell Haynes states that Singapore, in tonnage movement, exclusive of warships, transports, native craft, yachts, and vessels under 50 tons, ranks ninth, the total entering and clearing in 1907 being nearly 14,000,000 tons. Other favorable comparisons and opportunities for American goods are also revealed as follows by Mr. Haynes:

Hongkong ranks higher as a commercial port, but in cargo value falls below Singapore's $300,000,000. With the exception of Hongkong, Singapore is preeminently the transfer station of eastern trade, nineteen-twentieths of the value of her imports and exports being transshipments, the one-twentieth consisting of home-raised cocoanuts and pineapples. Only one six-hundredth of her tonnage is local. Within the last ten years her total trade value has doubled. In 1896 there entered five vessels with 7,408 tons from America, and 44 with 77,727 tons cleared for there; in 1906 the figures were, respectively, 43 vessels with 131,593 and 58 with 201,715 tons.

ARTICLES IN DEMAND—PRESENT AMERICAN TRADE.

Few places possess the trading facilities of Singapore. Here is the trade clearing-house of the East with free labor, military protection, superior banking facilities, free trade, and a magnificent harbor, which will soon be improved at a cost of $5,000,000. Here are people who want sewing machines, typewriters, cotton goods, drugs, chemicals, motor cars and boats, tobacco, cigars, lamps, musical instruments, phonographs, machinery, electrical appliances, food, oils, etc., and English and Germans are here busy supplying them, while the American is at home posting letters and circulars.

However, typewriters made in the United States are being sold by English agents and one American company's sewing machine is being energetically pushed in the Straits Settlements, the Federated Malay States, Siam, and Java. One-third of the annual total of $700,000 worth of petroleum entering Singapore comes from the

United States. Sumatra, being near, furnishes considerably over one-half of the whole. Of the 21,000 tons of flour, nearly one-half comes from Hongkong and less than one-fortieth direct from the United States, the figures for 1906 being, respectively, 21,057 and 514½ tons. Approximately two-thirds, however, of that entering from Hongkong is American flour.

INDIRECT REPRESENTATION.

Apart from typewriters, sewing machines, petroleum, and flour, what are American merchants doing toward the sale of articles wanted in a tropical climate? What they are not doing in this colony that sells to the United States $16 worth of goods to every dollar's worth it buys is shown by the fact that of the 50 different lines of American business represented in Singapore 36 are in English hands, the remaining 14 being attended to by only 5 Americans. Ten makes of American typewriters are on the market, 9 of them sold by English. The only American bank has an English manager, as is true of the same bank in Hongkong and Shanghai, a condition due, it is said, to the Englishman's superior training in exchange. American watches, scales, vehicles, beer, drugs, medicines, and automobiles are sold exclusively by English.

During 1907 over 300 trade letters were received at this consulate. Every mail brings American advertising matter which is given as wide publicity as possible. The regular issues of twenty-four trade papers are received and kept on the reading table within reach for easy reference, and manufacturers are assured that all printed matter or other forwarded will be kept where it will prove of most value.

FEDERATED MALAY STATES.

AREA AND POPULATION—GOVERNMENT AND GEOGRAPHIC CONDITIONS.

Consul-General Haynes also sends the following information concerning the Federated Malay States and the prospects there of mineral and agricultural development:

The Federated Malay States, comprising Perak, Selangor, Negri Sembilan, and Pahang, have an estimated area of 26,380 square miles and a population of about 900,000. Pahang is the largest of these states, covering nearly half the combined area, and Perak is the richest and most important. The administration is subject to the British secretary of state for the colonies, under whom the governor of the Straits Settlements holds the office of high commissioner of the Federated Malay States. The principal civil officer in the states is the resident-general, who is assisted by a staff supervising the principal departments.

The land slopes to the coasts from a central mountain range with heights of 3,000 to 7,000 feet, and is everywhere covered with a dense tropical forest of large timber trees, most of which are over 100 feet high. From this watershed flow innumerable streams, some of which are navigable for light-draft steamers 50 miles from the sea.

MINERAL AND AGRICULTURAL PRODUCTS.

Among the natural resources of the states are minerals, such as tin, gold, lead, iron, silver, copper, zinc, etc. Tin is by far the most important, furnishing about 60 per cent of the world's production. Only alluvial surface deposits have so far been worked, and these only in a crude Chinese fashion. The last year for which statistics are available showed a falling off in the quantity of tin produced, due to the fact that the different mines were not equipped with the necessary machinery to mine the lower grades of ore successfully. This condition has been in a large measure remedied by enterprising mine owners, and as a result there will probably be additional development of new deposits and a greatly increased production. A small quantity of gold is mined. There are other minerals as yet untouched which are doubtless of great value.

Forest products comprise gutta-percha, rubber, rattans of many varieties, including the Malacca cane, vegetable oils, resins, and the ataps so extensively used for thatching, gambier, tapioca, sago, rice, and spices, principally pepper. Among the fruits are the mangosteen, banana, apple, lime, durian, duku, chiku, cocoanut, pineapple, guava, orange, soursop, mango, papaya, langsat, and many others. The equable climate is especially favorable for agriculture, in that it causes a constant, active growth. As a result all crops, annual or perennial, show greater progress than the same plants during the same time in countries like Ceylon and South India, where prolonged periods of extremely small or absolute lack of rainfall check growth. The disadvantage of the equable climate is that there is no "close time" for insects or fungous pests. Droughts at regular intervals would hinder parasitic fungi.

RUBBER AND COCOANUT PRODUCTION—FINANCIAL PROSPERITY.

Rubber is the chief agricultural product. At the beginning of the past year there were 242 estates, with 10,745,000 trees, an increase of 4,000,000 over the preceding year, and a total acreage of 85,579, an increase of 45,000. The output of dry rubber was 130 tons in 1905 and 385 tons in 1906. At present there are employed regularly in estate work 70,000 coolies, of whom 31,000 are Tamils, 4,000 Javanese, 1,500 Malays, and 3,400 Chinese.

The cultivation of the cocoanut ranks next in importance. The area under cultivation at present is over 105,000 acres, an increase of 5 per cent over that of a year ago. More than one-half this area is bearing, and the whole is said by the director of agriculture of the Federated Malay States to be worth about $11,200,000. At an average of 40 nuts per tree, the yield, if converted into copra, would amount to over 50,000 tons, with a large and valuable stock of fiber for the manufacturing of coir matting, rope, etc.

Recent experiments have been made with the propagation of camphor by means of cuttings. The first trial of some thousands of trees was not successful. As the camphor plant does not fruit until some thirty or forty years old, the experimenters are obtaining more seed from Japan. Some plantings of cuttings only a few feet above the sea level have attained in two years a height of 12 to 14 feet.

All official reports point to increased activity in every line of business, and the proposed public improvements, providing particularly for better communication and transportation facilities, must when completed add greatly to the wealth-producing capacity of the country. Much progress has been made in the solution of transportation problems. The finances of the States are in a prosperous condition; reports show a surplus of over $2,800,000.

COCHIN-CHINA.

GREAT INCREASE IN RICE SHIPMENTS—AMERICAN FLOUR SALES.

Vice-Consul Louis R. Gage, writing from Saigon concerning the trade of French Cochin-China, sums up the situation as follows:

The amount of wealth in Cochin-China can be estimated every year by its rice exports. In 1906 the shipments of rice amounted to 548.000 tons, of which 149,649 tons went to Europe and the remainder to other countries. The shipments in 1905 aggregated 396,445 tons, 97,437 tons going to Europe and 299,008 tons to other countries. These shipments did not include rice meal and broken rice. The hulling of rice is practically monopolized by the Chinese, who own and operate all mills, with the exception of two, in Saigon.

The imports of American petroleum in 1906 amounted to 110,000 cases, against 230,000 cases in 1905. Petroleum from the Dutch Indies, although being of a lower quality, is also sold in large quantities because of its cheapness. Flour continues to form one of the principal articles of import from the United States, and is either shipped direct or through Hongkong. As a result of the boycott Australian firms have been given the preference in the flour trade and are now competing keenly with American importers. French flour, which is more expensive, is bought chiefly by the military authorities, and the bakeries are using it on a larger scale than ever before.

IMPORTS BY ARTICLES—AMERICAN TRADE.

The total imports of merchandise for domestic consumption into Cochin-China during the calendar year 1906 were valued at $19,304,685. The following statement shows the imports by articles:

Articles.	Value.
Animal products:	
Live animals	$33,444
Animal products, etc	356,886
Fisheries	100,815
Animal substances, raw	73,326
Vegetable products:	
Farinaceous foods	840,785
Fruits and seeds	801,136
Colonial produce	1,231,480
Vegetable oils and juices	903,614
Medicinal substances	161,221
Woods	115,329
Fibers, stems, and fruits for manufacturing purposes	120,991
Various products, etc	380,825
Beverages	934,095
Mineral substances:	
Marble, stone, earths, etc	1,137,342
Metals	1,825,126
Manufactures:	
Chemical products	159,183
Manufactures—Cont'd.	
Prepared dyes	$284,940
Colors	176.560
Various compounds	419,824
Earthenware, etc	205,507
Glass and crystal	107,831
Yarns	643,863
Tissues	4,563,852
Paper, and manufactures of	828,469
Hides, skins, etc., prepared	157,612
Manufactures of metals	1,200,298
Arms, powder, etc	379,572
Furniture	32,449
Articles of wood	64,112
Musical instruments	19,178
Manufactures of esparto, etc	102,090
Manufactures of various metals	931,355
All other articles	11,575
Total	19,304,685

The value of the imports direct from the United States in 1906 was $52,379, consisting of the following articles: Tissues worth $2,104; marble, stone, earths and combustible minerals, etc., $46,192; animal products and wastes, $3,585, and all other articles, $498. There were no exports direct to the United States in 1906, but the shipments of rice to the Philippine Islands during the year amounted to $3,000,000 gold.

The number of vessels entered at Saigon during 1906 was 292, which included 60 belonging to Chinese shipowners flying the British flag, which call from Hongkong loaded with general cargo. The number of vessels cleared, after deducting the 60 Chinese steamers, was 228, all of which were loaded with rice.

FRENCH INDIA.

INCREASE IN IMPORTS AND DECREASE IN EXPORTS.

Consular Clerk Milton B. Kirk, of the Paris consulate-general, furnishes the following statistics concerning the foreign trade of the French settlements in India for the year 1906: Imports, $1,274,736; exports, $5,167,600. Compared with 1905, this shows an increase of $47,988 in the imports, and a decrease of about $80,000 in the exports. Of the imports $318,855 were from France, $5,877 from French colonies, and the remainder, $954,977, from foreign countries. Of the exports, $748,605 went to France, $646,101 to French colonies, and the remainder, $3,776,888, to foreign countries. The French settlements in India consist of Pondichery, the principal port of commerce, Oulgart, Villenour, Bahour, Karikal, Grand Aldée, Nedounkadore, Chandernagar, Mahé, and Yanaon, with a total population estimated at 275,500, of which a little over 1,100 are Europeans.

KONGO FREE STATE.

A SUBSTANTIAL INCREASE NOTED IN BOTH IMPORTS AND EXPORTS.

Consul-General James A. Smith, of Boma, furnishes the following report on the foreign trade of the Kongo Free State:

The total trade of the Kongo Free State for the year 1906, the figures being the latest available, amounted to $20,551,200, an increase over 1905 of $2,326,745. The exports were valued at $14,818,796, which included articles in transit worth $3,571,176, while the imports amounted to $5,732,404, the goods in transit being valued at $1,587,237. The combined value of the imports for consumption and exports of Kongo products, known as special commerce, was $15,392,787, of which $4,145,167 were imports and $11,247,620 exports. This was a gain of $1,012,406 in exports and $270,649 in imports over 1905.

The exports of copal, palm oil, cocoa, and rice showed increases, while groundnuts, coffee, ivory, and palm nuts decreased. The principal export, rubber, shows a loss in quantity but a gain in value. In 1905 the total shipments of rubber amounted to 10,715,334 pounds, the average price per 2.2 pounds being $1.74. In 1906 the average price was $1.93 per 2.2 pounds. Ivory brought an average of $2.19 a pound. The largest imports are tissues, food products (largely canned), liquors and beer, material and accessories for river steamer construction, clothing, metals, coal, glassware, arms and ammunition, machinery and hardware.

PRINCIPAL ARTICLES OF IMPORT.

By far the larger part of the tissues imported consist of cheap unbleached cotton, cotton prints, and a blue indigo cotton drill, mostly of English and Belgian manufacture, and used extensively for barter with the natives, with whom it is much in favor because of its durability. The uniform worn by the native soldiers is also of this material. Imports of food products are principally canned meats, fish, vegetables, butter and cheese, preserved fruits and conserves for the white population. Dried fish for rationing the State's soldiers and native workmen is imported largely from the west coast of the Portuguese colony of Angola. Under the heading "metals" are included steel rails, bars and plates, copper wire, bar iron, rails, and galvanized corrugated iron largely used in building work by the State and concessionary companies.

The principal articles of import for consumption into the Kongo Free State during the calendar year 1906 were as follows:

Articles.	Value.	Articles.	Value.
Arms and ammunition	$177,636	Lumber and timber	$36,813
Candles	7,352	Machinery	208,300
Coal	62,708	Metals	212,338
Colors	15,923	Oils	35,245
Crockery	12,721	Pharmaceutical products	59,129
Clothing	251,399	Soap	18,407
Construction material	36,279	Stationery	39,453
Chemical products	9,907	Scientific instruments	18,752
Drugs	10,121	Steamers, etc., and materials	277,860
Food products	781,954	Tobacco	38,734
Furniture	28,058	Tissues	1,145,167
Glassware	74,584	All other articles	67,975
Hardware	155,495		
Haberdashery	27,201	Total	4,145,167
Liquors, including beer	335,676		

DOMESTIC EXPORTS—SPECIAL COMMERCE BY COUNTRIES.

The largest items of domestic export in 1906 were: Copal, valued at $209,582; cocoa, $108,736; ivory, $859,848; palm nuts, $283,453; rubber, $9,358,436, and palm oil, $230,977. The value of the special commerce, by countries, is shown in the following table:

Countries.	Special commerce.		Countries.	Special commerce.	
	Imports.	Exports.		Imports.	Exports.
United States	$11,384	----------	British possessions, East Coast	$18,411	$59,617
Belgium	2,950,061	$10,480,811	Egypt	4,158	28,501
United Kingdom	528,959	162,464	Denmark	38,975	----------
France	156,246	1,930	Portugal	32,654	----------
Germany	154,537	29,067	Austria-Hungary	15,246	----------
Netherlands	121,443	88,396			
Portuguese possessions	82,019	380,024			

Under present conditions the outlook for any large extension of the market for American goods is not a bright one. There are many articles in which American manufacturers should be able, under ordinary conditions, to secure a reasonable portion of the trade, notably in cotton goods, canned meats and vegetables, preserved fruits, arms and ammunition, iron and steel manufactures, machinery, hardware, etc., but ordinary conditions do not prevail, and at present I see but little opportunity for an increase in American exports to this country. There are no direct exports to the United States, and the imports therefrom in 1906 amounted to only $11,384, consisting almost entirely of canned goods and machinery.

DAHOMEY.

THE IMPORTS AND EXPORTS OF AN AFRICAN COLONY OF FRANCE.

The commercial movement of the French African colony of Dahomey is reported on as follows by Consular Clerk Milton B. Kirk, of Paris:

The foreign trade in the year 1906 amounted to $3,670,979, an increase of $126,211 over the year 1905. The imports were $2,029,243, a loss of $42,134 over the preceding year, and the exports were $1,641,736, an increase of $168,345 over 1905. France furnished 35.8 per cent of the imports and took 33.6 per cent of the exports. The direct imports from France amounted to $14,294 of animal products, $117,517 of vegetable goods, $66,199 of mineral products, and $528,306 of manufactured articles.

The direct imports from the United States consisted of animal products worth $56, vegetable products $4,854, mineral products $7,929, and manufactured products $3,059. Of these same classifications England furnished $3,014, $53,285, $4,473 and $202,696, respectively, and Germany $3,454, $203,679, $31,561, and $247,732, respectively.

The principal import was textiles, mainly supplied by Germany, which shipped $256,118 worth; England, $163,436; Lagos, $142,134, and France, $52,214.

The principal crude exports were grains and fruits, of which Lagos took about $500,000 worth and Germany about $250,000 worth. Nearly all the vegetable oils were shipped to France.

AUSTRALIA.

MELBOURNE CLEARING-HOUSE RETURNS—CHECKING FOREIGN VALUES.

Consul-General John P. Bray reports that the clearing-house returns of the city of Melbourne, Australia, for the year 1907 totaled $1,151,383,629, or an increase of $80,544,098 over 1906. The following table shows the clearances in Melbourne and Sydney, the two large cities in Australia, during the past five years:

	1903.	1904.	1905.	1906.	1907.
Melbourne	$811,218,419	$847,530,113	$913,113,195	$1,070,839,531	$1,151,383,629
Sydney	880,648,682	865,250,724	923,789,688	1,074,817,681	1,189,287,428

The government of Australia is endeavoring to make arrangements with the British Government by which, in return for a fee, the former government may utilize the services of the commercial attachés which it is proposed to appoint to the principal British consulates throughout the world, for the purpose of making special investigations as to foreign value of goods imported into Australia.

TEXTILES.

COTTON AND PRODUCTS.

MEXICO.

CULTIVATION, SEED-OIL PRODUCTS, MANUFACTURE AND IMPORTS.

Special Agent Arthur B. Butman, writing from Mexico City, describes the various branches of the cotton-textile industry in the Mexican Republic, including the growing of the fiber and its conversion into different marketable products. His report follows:

The principal cotton-growing section of Mexico is comprised in what is known as the "Laguna district," which includes the southern portion of the States of Chihuahua, Coahuila, Nuevo Leon, Tamaulipas, Durango, Zacatecas, and San Luis Potosi. In this district is produced probably 85 per cent of the cotton grown in the Republic.

Active efforts have been made to increase the acreage under cultivation, but such efforts have not resulted successfully. According to authorities familiar with the cotton-growing industry in Mexico, this is accounted for by various and somewhat conflicting reasons. It is claimed that the Laguna district is at present turning out about all the cotton that it can produce. Again it is claimed that the land is held in large tracts, and that the small cotton grower can not secure small areas for planting, while the larger growers do not enter into it to any great extent, except in the State of Coahuila. The cotton district is an irrigation country, and it is stated that, at the present time, all Government water concessions are taken up, which is another obstacle to would-be growers.

There are other portions of the Republic well suited to cotton cultivation, such as the States of Chiapas, Vera Cruz, Puebla, and Morelos, and the coast lands of the States of Oaxaca and Guerrero.

IMPORTATION AND CULTIVATION OF THE FIBER.

Mexico does not produce sufficient cotton for domestic consumption. In fact, it may be approximately estimated that the production of the staple in the Republic yields about one-half the amount required for use in her industries. Mexico imports annually a small quantity of Egyptian cotton for use in mercerized weaves. The exports of cotton from the United States to Mexico during the fiscal years 1905, 1906, and 1907 were valued at $3,768,126, $1,620,443, and $36,413, respectively. The noticeable falling off in these exports was largely due to the unusually favorable yields of the domestic-grown staple.

The experimental growth of Caravonica cotton, a staple of unusual length and quality, especially adapted to tropical localities, has recently been successfully undertaken in the State of Veracruz.

It is impossible at the present time to secure accurate official statistics of the acreage now under cotton cultivation in Mexico. The best cotton authorities, however, estimate the area for 1907 planted in cotton to have been 250,000 acres. The amount of cotton produced in the fiscal year 1903 was 80,779,901 pounds, valued at $3,939,989, United States currency, which is that used throughout this report, and in 1904, 121,062,106 pounds, valued at $7,858,521. There was a shortage in the yield for 1907, which is not expected to exceed 70,000 bales.

Cotton is planted in Mexico in March, the season of growth extends from March until June, and picking takes place from June until September. No fertilizers are used in the growing of the plant, although the consideration of their adoption is receiving the attention of the growers.

The fiber of the Mexican cotton is of good length and strength, thinner, however, than that of American cotton, less silky, and not so clean. The plant suffers from many pests, among which is the boll weevil, which is said to have been known in Mexico fifty years before it was found in Texas, and is supposed to have migrated thither. The "conchuela" is perhaps the most common pest, and of diseases common to the cotton plant, viruela, or cotton smallpox, is prevalent, and annually destroys large quantities of cotton. The Mexican Government maintains no experimental stations for cotton growth, but information on the best methods of parasite extermination is freely given by the Government to cotton growers.

BALING METHODS.

Mexican cotton is baled according to improved methods. The presses used are heavy, and the cotton is baled under pressure of from 3,000 to 4,000 pounds. There are no central presses in Mexico to receive the cotton from various gins. Each plantation has its own gin and press. Cotton is baled on the premises. Four or five laborers (peons) are employed to a baling press. Square bales are used, generally weighing about 500 pounds, and five 1-inch ties are used to the bale. The ties used are the standard arrow ties, 1 inch in width and 11½ feet long, and weigh 45 pounds to the bundle of 30 ties. They are manufactured principally in Monterey, and cost $1.35 per bundle. Buckles are used in baling, as in the United States. Gunnies are made of ixtle, the native Mexican fiber, and are manufactured in the cotton-raising vicinity.

Cotton is bought and sold by net weight in Mexico, and on the invoice a discount is made on the gross weight for the tare.

COTTON MANUFACTURING.

According to the latest complete annual industrial statistics, the cotton industry of Mexico in the fiscal year 1905 employed 30,162 persons, operating 678,058 spindles and 22,021 looms, and consumed 68,850,195 pounds of cotton in 128 factories during the year. I am informed that the increase in cotton manufacturing plants in Mexico since that period has been limited. Some few factories may have resumed operations, but others have been closed, so that the factories in operation to-day are practically the same, as regards numbers, as in 1905. There has been little increase in the production of cotton goods in the past few years, consequently the number of employees at the various mills throughout the Republic at present is only slightly larger than for 1905.

The larger percentage of factories in Mexico are employed in the manufacture of cotton yarn and in weaving. Cotton colored tissues are manufactured in 17 factories, and there is at least 1 cotton underwear factory. The estimated sales for 1905 amounted to $25,404,784.

By far the larger number of factories are located in the central States, Puebla leading with 29 mills, in which are operated 113,000 spindles. The State of Vera Cruz contains 11 mills, and the most important cotton manufacturing company is found at Orizaba, which is said to own about one-fifth of the total cotton manufacturing outfit of the Republic. The mills in Orizaba are modern, up-to-date plants, complete in every detail—one of them is said to be one of the largest in the world—and of a size which will compare favorably with the cotton establishments in the United States. A good proportion of the raw cotton produced in Mexico is consumed in the mills at Orizaba.

COTTON-SEED PRODUCTS.

Cotton-seed products in Mexico are becoming more and more a commercial proposition. Many manufactories exist in various sections of the republic where the cotton seed is used; the chief products of which are soap, glycerin, cotton-seed oil, cotton-seed meal, and cotton-seed meal cakes. The cotton-seed meal is used, as in other countries, as a food for fattening stock for market.

At Gomez Palacio, in the State of Durango, is situated the largest factory using cotton seed in Mexico; soap, glycerin, and cotton-seed oil being here manufactured in large quantities. Such factories, of more or less importance, are found in many sections of Mexico, and the rapidly growing industry is fast becoming a prominent one.

The following statement shows the exports from the United States to Mexico of cotton-seed products during the fiscal years 1902–1907, and the exports of cotton-seed meal and cake from Mexico during 1902–1906:

Year.	Exports from United States to Mexico.		Exports of cotton-seed meal and cake from Mexico.
	Oil.	Cake and meal.	
			Metric tons.
1902	$1,069,741	$967	8,235
1903	1,068,335	247	8,738
1904	1,176,996	2,858	9,871
1905	$692,751	$181	13,814
1906	822,161	665	16,210
1907	1,008,881		

LABOR, WAGES, AND WORKING DAY.

The wages paid in the cotton manufacturing industry in the various sections of Mexico differ considerably, averaging much higher in the northern States than in those States situated in the central and southern sections of the country. On the whole, however, the averages mentioned will be found approximately correct. About an equal percentage of male and female workers are employed in the cotton factories. Spinning operatives are paid by the piece, the earning capacity of each worker depending naturally upon their skill and speed. Monthly wages: Engineers, $37.50 to $75; stokers, $25 to $50; machinists, $37.50 to $50; storeroom employees, $50. Daily wages: Reelers, carders, stretchers, and flyers, of both sexes, from 25 to 50 cents. One weaver usually attends to four looms, although the number of looms operated, in many instances, depends upon general labor conditions as well as on the proficiency of the weaver.

Many children are employed in the factories, it being estimated that child labor in the cotton mills of Mexico will average about 25 per cent of the total number of operatives employed. The children, both boys and girls, begin work at the age of 9 years, and are employed usually in the reeling department. They are paid, as a rule, from 20 to 25 cents a day, when they first begin work, and, as proficiency increases, this wage is advanced to 30 to 37½ cents a day.

The working day varies in the different sections of the country. In many of the States, particularly in those States where labor unions have obtained some growth, the hours constituting a working day are fixed at ten. In other sections, farther removed from business centers, and where there are more laborers and less work than in the larger cities, from twelve to fourteen hours constitute a working day. It should, however, be stated that in Mexico the midday rest, which is allowed to practically all employees of manufacturing and other enterprises, is two hours, which materially reduces the seemingly long hours of labor prevailing.

MODERN MILLS—OUTPUT OF FACTORIES.

The greater number of the cotton mills of Mexico are of modern construction and patterned largely after the mills of the United States and Continental Europe. As regards equipment, not only the mills of Orizaba, previously mentioned, but practically all the cotton mills in Mexico, are now equipped with modern machinery. Many of the mills have recently abandoned their old machinery for that of later and more modern design, so that it may be safely stated that practically all the cotton mills in the Republic are modern in equipment.

The United States furnishes about one-third of the machinery used in Mexico in the manufacture of cotton goods, the remaining two-thirds, as now employed, coming from England and Germany. The bleaching, dyeing, and printing establishments are usually of modern construction and equipped with all up-to-date appliances. Motive power is supplied by steam, water, and electricity. Steam is very largely used, but owing to the extension of electric power in nearly every portion of the country, electricity is coming more and more into general use and is gradually supplanting steam and water as a motive power for cotton manufacturing.

The quality of the Mexican cotton goods output is constantly improving. Not only the cheaper grades of cotton prints but many of the finer classes are now manufactured. The output includes cotton sheetings (bleached and unbleached), tickings, linings, drills, mezclillo (mixed gray cloth), shirtings, printed percales, Marseille quilts, cotton napkins, tablecloths, handkerchiefs, and cloths of mixed woolen and cotton. Knitted garments and fleece-lined underwear are manufactured, although this industry is in its infancy.

Unbleached sheetings are manufactured 1½ meters (meter=39.37 inches) in width and 28 to 30 meters to the bolt; domestic unbleached, 60, 65, 70, 75, and 80 centimeters (centimeter=0.3937 inch) in width, 25 to 30 meters to the bolt; bleached sheetings 1½, 1¾, and 2 meters in width, 45 to 50 meters to the bolt; domestic bleached, 60, 65, 70, 75, and 80 centimeters in width, 42 to 50 meters to the bolt. Drills are woven 1 meter 60 centimeters wide, and in lengths of 45 meters; percales, 77 centimeters wide, in lengths of 35 meters.

The exports of cotton manufactures from the United States to Mexico during the last three fiscal years were as follows:

Description.	1905.	1906.	1907.
Piece goods	$270,143	$265,064	$267,695
Wearing apparel	278,944	285,406	324,395
Total	549,087	550,470	592,090

The consumption of British cotton goods in Mexico exceeds that of all other foreign countries. During 1906 the United Kingdom exported to Mexico the following: Piece goods—gray $59,863, bleached $809,879, printed $325,028, dyed or of dyed yarn $628,692, total piece goods $1,823,462; other than piece goods $1,507,604; yarn, $68,391; grand total $3,399,457.

CHINA.

EFFORTS TO EXTEND COTTON GROWING—UTILIZATION OF THE SEED.

In forwarding a report on the cotton-growing industry of China by Deputy Consul-General W. Roderick Dorsey, of Shanghai, Consul-General Charles Denby makes the following comments:

The determination of the Chinese to improve the products of their cotton fields, in which determination they are encouraged by the demand for raw cotton for manufacturing industries in Japan, must, if intelligently persisted in, affect the export of raw cotton from America to China and Japan. It is evident to the observant traveler that not only could the area devoted to the growth of cotton throughout China be greatly increased, but, with intelligent effort in the selection of seed and preparation of the soil, it could be made to produce a better crop of fiber, more suitable to manufacture by modern machinery.

This tendency on the part of modern China to produce at home the commodities for which the Empire has heretofore relied largely upon foreign imports is manifest not only in cotton, but is marked in the increasing growth of wheat and the manufacture of flour, as well as in the production of iron and steel.

Mr. Dorsey's remarks as to the unsuitability of American machines for the removal of the small Chinese cotton seed and the consequent replacing thereof by English machines is commended to the attention of the American manufacturer. The increased production of cotton in China will necessarily lead to a greatly increased demand for cotton gins of the small hand-power variety, millions of which are now in use throughout this country and which are as a rule supplied from Japan. The whir of these small ginning mills is a familiar sound in every village in the immense cotton-growing district of central China.

Samples of ordinary Chinese cotton fiber and of that recently grown from American seed, together with some Chinese cotton seed itself, are forwarded herewith. [Samples of these may be secured by business firms from the Bureau of Manufactures.] Mr. Dorsey's report follows:

EXTENT OF CULTIVATION AND YIELD.

Among the pursuits and industries of China the cultivation and manufacture of cotton is one of the most important. The heavy demand made upon the local crops by the mills of Japan and the many thousand spindles whirring busily in the Shanghai mills to supply an ever-increasing demand for native yarns, etc., demonstrates to the grower that a great acreage must each year be devoted to the production of this staple.

Actual figures as to the size and value of the yield, as well as the area now under cultivation, would be of value and great interest, but no reliable statistics on these points can be secured. It is conceded, however, that the area devoted to its growth and the value of the annual crop are exceeded only by that of silk and tea, cotton thus taking third place in the scale of agricultural products.

Figures as to the yield can only be estimated. The annual output of the mills is placed at 180,000,000 pounds a year. To this can be added with certainty the 110,000,000 pounds (including cotton waste) exported to foreign countries. Information as to the quantity of cotton used by the natives for padding clothing, bedding, etc., never reaches a statistician. Allowing only three-fourths of a pound of cotton to each of 400,000,000 inhabitants, 300,000,000 pounds more are accounted for, which, added to the preceding figures, gives a possible total production of 590,000,000 pounds per annum, the value of which at the average price of export cotton during 1906 would be $97,980,000 United States currency.

The country adjacent to Shanghai is the principal cotton-producing district in China, both for bulk and grade. Hankow and Ningpo are also important centers, but the quality is inferior to and the staple shorter than that grown in the Shanghai district.

STATISTICS OF EXPORTATION—USE IN LOCAL MILLS.

The following table gives the quantity, expressed in pounds, of cotton that passed through these ports during the past four years:

Port.	1903.	1904.	1905.	1906.
Shanghai	63,000,000	107,229,000	79,000,000	82,700,000
Hankau	44,300,000	58,800,000	33,800,000	19,200,000
Ningpo	15,500,000	16,800,000	11,900,000	14,000,000

Cotton ranks fourth in the list of products exported to foreign countries. The total exports for the last four statistical years is as follows: In 1903, 101,700,000 pounds; 1904, 182,000,000 pounds; 1905, 108,900,000 pounds; and in 1906, 109,500,000 pounds. Of this Japan took about 90 per cent, Germany 3 per cent, Great Britain 2 per cent, Hongkong 2 per cent, Italy 1½ per cent, the remainder being distributed between the continent of Europe, Russia, and the Orient, only a very small consignment, evidently samples, going to the United States. [A Boston commission firm writes to the Bureau of Manufactures that it has been making considerable importations of Chinese cotton from Liverpool.] In this connection it is interesting to note that an effort will be made shortly to find a market in America for Chinese-grown cotton. The native staple being short and unsuited to the machines in use in American mills, it is not expected to compete with the home product for spinning. It is, however, well adapted for filling and short-end work, such as the manufacture of rugs, carpets, curtains, etc., and this is the market it is hoped to secure. That exported to Great Britain, Germany, and Italy is used principally for such work, and there is an increasing demand for it in those countries.

A large percentage of the staple remaining in this country finds its way to the cotton-spinning power mills, of which there are now 27 in China, actively engaged in turning out yarn for the native market. Chinese cotton is whiter than Indian and the product of the Shanghai mills is superior in color and cleanness to either Japanese or Indian yarn, but being shorter in staple it is not so strong nor is it so well reeled, owing to the low class of labor employed. The number of spindles in these 27 mills is approximately 750,000 and the production per spindle working day and night is from 11 to 13 ounces. Taking 12 ounces as an average, these spindles are capable of a daily output of 562,500 pounds, and on the assumption that work is carried on 320 days of the year, the annual output would be 180,000,000 pounds of yarn, a quantity equal to more than half the foreign import.

COTTON OIL MILLS.

In addition to the spinning mills referred to there are in China at least 10 cotton-seed oil mills located at Shanghai, Hankau, and Tungchow. I have seen no statistics as to the output of these mills or as to the quantity of oil consumed in China. Of the refined product, 1,186,000 pounds (value $29,000) were exported to foreign countries.

The seed of Chinese cotton is much smaller than the American, and American machines, especially the huller, do not give the best results. For this reason, I am told, the one foreign mill in Shanghai has recently replaced certain American machines with others of British manufacture. I understand an effort was made to have an American manufacturer adapt machines to the Chinese seed, but without result.

VALUE AND USE OF SEED.

The seed is also of inferior quality and worth from $11 to $13 per ton. Its yield is as follows:

Yield.	Per cent.
Crude oil	8
Cake	43
Lint	1
Dirt	1
Hull	47
Total	100

The crude oil loses 14 per cent in the refining process. The oil in its crude state is used for cooking and illuminating. In the refined state it is exported to foreign countries, principally to Australia, where it is used as an adulterant for butter and lard.

There is a considerable demand for the hull, which is used entirely for fertilizing purposes, and for which the Chinese farmer pays about

$2 per ton. The seed cake, which is also in good demand, is utilized for cattle feed, and is worth from $9 to $11 per ton. There is little demand for the lint. The dirt is also bought by the farmers for fertilizing purposes and brings about $2.25 per ton.

The native mills, operating native machinery, have proved profitable to their owners, and the one foreign mill in Shanghai, although in operation but a few years, has also proved successful. I have heard that a native mill in one of the outports has recently installed foreign machinery, and it is possible that others will follow suit. If the American mill manufacturer hopes to hold this market for this class of machinery he must be prepared to adjust his present models to the local requirements.

Considerable cotton seed is sent out of the country, principally to Japan. In 1905 the exports reached 87,960,670 pounds, valued at $443,650, while in 1906 they fell off to 82,108.700 pounds, valued at $417,850.

EXPERIMENTS TO IMPROVE STAPLE.

The Japanese, who are the principal buyers of Chinese raw cotton, are deeply interested in the betterment of the local product, and there is now a movement on foot which, if successful, will improve its grade to such an extent that we may look for a great falling off in the export of American grown cotton to Japan.

A Japanese firm, in close touch with the Government, began experiments last year at Kangwang, Province of Kiangsu, with cotton seed obtained from several countries. Seeds from India and Japan gave poor results. The American seeds, however, have produced a cotton greatly superior to the native. The staple is good, but the color, owing to heavy rains, is poor. It is proposed to repeat the experiments next season, using the American seeds developed at Kangwang, and should the grade not fall off the seeds then produced will be distributed free to the farmers.

The Japanese hope in this way to procure a cotton of American grade which they can purchase at a low price and lay down in their own country with small cost for transportation. This accomplished, American cotton will only be bought by Japan when her requirements exceed China's production.

SALVADOR.

COTTON MANUFACTURES DOMINATE THE MARKET.

In transmitting the following information concerning the dry goods trade of Salvador Consul-General Samuel E. Magill reports that, on account of the climate, silks and woolens are worn only by an insignificant part of the population, and that cotton manufactures are the only dry goods worthy of consideration:

The following information relative to the classes of cotton manufactures imported, and the countries supplying the same, was obtained by a canvass of the wholesale houses of this city (San Salvador):

Gray domestics are imported in about equal quantities from the United States and the United Kingdom, the price deciding as the product of each country has its advantages for this trade. This applies also to trade in gray drills, although at the present time almost all of the latter are bought in the United States.

The United Kingdom has the trade at present in white sheetings and lawns, as English manufacturers give greater latitude to purchasers in the matter of widths and quantities. Some local merchants believe English finish is superior to American.

American prints formerly held the market, but have lost it to the English owing to the great advance in the price of Americans and an increase in the Salvadorean tariff at about the same time. The import tariff is charged on weight, and the American prints, being heavier than the English, cost more to import. American manufacturers, declining to produce a lighter weight and give the variety in width and design offered by the English, have lost the trade, which has been secured by the Manchester manufacturers.

The market in drills seems open to competition, as local merchants buy from the United States, the United Kingdom, Germany, Italy, France, and Belgium according to personal preference. The impartial opinion seems to be that, while Italy, France, and Germany offer greater variety in style and design, the quality of drills from the United States and England is superior. In the gray drills the American are preferred, while in colors the United States and England secure about an equal share. Blue denims are almost all of American manufacture.

Yarns and thread are of English make, because the English brands are well known and the price is low. In the case of yarns the English hold the trade because of willingness to fill orders, however small, in any color or quantity and make packages in any size or weight desired by the purchaser. Laces are of English make exclusively, as are also fancy cotton dress goods. German blankets are preferred here to American, as the price is lower and a greater variety of design is offered.

SIDE LINES—POINTERS FOR AMERICAN MANUFACTURERS.

Almost without exception the importers of dry goods have side lines, most of them handling barbed wire, flour, oil, cement, galvanized iron, etc., and they also are extensive purchasers and exporters of the natural products of the country, such as coffee, balsam, indigo, hides, etc., so that it is quite safe to correspond with any of the firms in a list forwarded concerning trade in anything from cottons to cement and from thread to barbed wire. [List on file in the Bureau of Manufactures.]

Few local merchants have complaints to make about American packing or the American system of credits, the chief complaint being that American manufacturers do not seem to be sufficiently interested in securing the cotton-goods trade of the Republic, to make the styles the trade wants, and sell them in the widths and quantities desired by the local merchants.

American exporters of cotton goods to Salvador should note that the fractional currency of this country, as far as trade is concerned, does not contain "cents," although the Government coins them, the retail merchants refusing to accept or use them. Therefore the coins in use are 6¼, 12½, and 25 cents in value, and an increase of 1 cent a ard in the cost of a line of cottons in New York might necessitate an ance of 6¼ cents in Salvador, as there is no less coin multiple here.

This may cause the American merchant to lose the trade, for it is the universal experience here that the prices of English, French, and German goods do not fluctuate as do those of the United States, which seem to respond more quickly to, and be governed more completely by, the changes in the price of baled cotton as made on the cotton exchanges of American cities.

Competition between steamship lines from European ports to Colon gives European merchants a lower rate to Salvador than American merchants have from New York.

A railroad to connect the railway of Salvador with the line in Guatemala which runs to Puerto Barrios is contemplated. If it is constructed, it will give an impetus to local trade, as by that route a more direct access can be had to and from the markets of the world, for Salvador would then have the advantage of an Atlantic port which it does not now possess.

CARPETS AND TAPESTRIES.

FRANCE.

A PROFITABLE TEXTILE TRADE OF THE DEPARTMENT OF THE NORTH.

Consul Chapman Coleman, of Roubaix, reports that the Department of the North is one of the most important seats of the tapestry and carpet industry in France, to which he adds:

Its manufactures, in greatly varied forms and designs, are exported in large quantities to foreign countries, including the United States, and the methods by which this success is achieved might, in some features, be profitably studied by American manufacturers of such goods.

The prosperity of this industry is attributed by local manufacturers, in a large degree, to the preparatory instruction obtained by young men in the industrial schools situated in this district. The chief of these are: "l'École Nationale Professionnelle," at Armentières; "l'Institut Industriel du Nord de la France," at Lille; "l'École des Arts et Métiers," at Lille; "l'École Pratique d'Industrie," at Lille; "l'Institut Catholique d'Arts et Métiers," at Roubaix, and "l'École Industrielle," at Tourcoing.

TAPESTRY WEAVING.

There are in this district some 27 factories in which tapestry goods are manufactured, 11 of which are at Roubaix; others are situated in the neighboring city of Tourcoing and in the nearby towns of Lannoy, Chering, and Commines. The principal fabrics manufactured under this head are gobelins, hangings, table covers, upholstery for furniture, curtains, with handsome and rich designs in silk and mixed textiles; other special manufactures consist of a kind of oriental tapestry; panels, macassars, piano covers with imitations of oil paintings, and reproductions from photographs—often made to order from special designs submitted. The latter specialty has found large favor in England, the United States, and Canada.

It is claimed that these varied tapestry fabrics in a number of branches of art manufacture are hardly surpassed, if equalled in excellence, elsewhere. It would seem, however, that an exception should be made in this regard in favor of the exquisite hand-loom products of high-warp tapestry, in woolen and silk yarns, as also in metals, such as gobelins, and of the low-warp tapestry, for which the National Manufactory at Beauvais, Department of the Oise, and the manufacturing establishments at Aubusson and Felletin, Department of the Creuse, are celebrated. Here, too, belong the beautiful tapestries in wool and silk of the factory at Nimes.

The products in tapestries of the looms at Roubaix, Tourcoing, and elsewhere in the Department of the North, are, owing to the economy secured in their manufacture by the prevailing, almost exclusive use of steam power, sold at remarkably low prices, except as regards certain classes of fabrics of high artistic merit, such, for instance, as decorative reproductions of paintings on "grosgrain" tissues, which, being much in vogue at present, command large prices; of these tissues, certain imitations of gobelins and flandres, the work of artists of talent, and executed with great skill and care, command high admiration.

CARPET PRODUCTION—LARGE SHIPMENTS TO AMERICA.

The carpet manufacturing industry in this district is one of the most important conducted anywhere in France in this branch of manufacture. There are 18 carpet factories, established on a large scale, employing 200 to 1,500 hands each, situated in the Department of the North, at Roubaix, Tourcoing, Lannoy, and Hem. Their greatly varied products, intended in a large measure for export, embrace moquettes, orientals, brussels, savonnerie, jacquards, axminsters, velvets, ingrains, oriental squares, rugs, etc.

The following classes of the manufactures of this origin merit special attention: In the first rank are the so-called knotted-pile carpetings, such as the savonneries, and most of those known as orientals; the moquettes, an intermediate fabric between short-piled carpets and oriental velvets. These moquettes, which are highly esteemed, were first made at Abbeyville, at as early a date as 1667, and soon thereafter at Aubusson and Amiens.

A veritable revolution was brought about in this industry in 1840, with the advent of the Wood mechanical loom, operated by steam. This loom was immediately adopted in the United States, but not until much later by French manufacturers, who suffered great loss at the time through this delay. But, though slow to change their methods, the French have, it appears, abundantly recovered lost ground, and now avail themselves of the most improved machinery. The employment at the present time in this district of the Jacquard mechanical appliance to looms in substitution for design cards, has greatly conduced to economy in manufacture. With the aid of this appliance, reduced in size, of which as many as 5 can be used on 1 loom, carpetings having a width of from 10 to 17 feet are readily manufactured and without repetition of the designs.

The direct export of tapestries and carpetings to the United States from this district amounted for the fiscal year ended June 30, 1907, to about one-half million dollars, while large quantities are also known to have found their way to American ports, indirectly, through shipments from England. Large and increasing numbers of the most expert operatives in this industry emigrate from year to year—to the great concern of their employers—to the United States, to seek and probably readily find employment at better wages.

BELGIUM.

ANTIQUITY OF THE INDUSTRY—EMPLOYEES AND EXPORTS.

In reply to an inquiry concerning Belgian textile industries, Consul-General Ethelbert Watts writes:

The weaving of flax has been carried on in Belgium from remote times. Flax cloth was woven in certain parts of Belgium in the time of Cæsar. Several centuries later Flemish drapers, especially those of Brussels, Ghent, and Louvain, manufactured woolen cloth which had a great reputation and was exported to France, Austria, and Italy. In the fourteenth and fifteenth centuries carpets and tapestry were manufactured in Brussels, Tournai, Ypres, and Audenarde. Since that time the Belgian textile industry has passed through alternate periods of prosperity and depression. The old manufacturing centers, such as Brussels and Louvain, have been deserted and the different branches of the industry have come to be associated with certain localities. For instance, woolen articles are manufactured at Verviers, linen in the two provinces of Flanders, and cotton goods at Ghent, Renaix, Mouscron, Braine l'Alleud, etc.

At the present time Belgium produces textiles of wool, half wool, cotton, linen, and linen mixed with cotton; hemp and jute textiles; and silk and half silk fabrics. Fabrics of pure wool or wool mixed with cotton are manufactured in 112 establishments, which employ 8,448 persons. The mechanical weaving of cotton is carried on in 61 establishments, employing 7,921 persons. In addition 2,800 persons working at home are engaged in the manufacture of cotton fabrics. White linen of all kinds is manufactured at Courtrai, Ghent, Iseghem, Alost, and Ruysbroeck. Damasked linen is especially manufactured by two important Belgian firms at Ruysbroeck and Ghent. The number of persons employed in weaving linen by machinery is 17,600.

The total value of textile fabrics exported from Belgium in 1906 was $4,957,398. The total value of linen exported from Brussels to the United States in 1905 was $569,481; and in 1906, $649,228.

THE CARPET INDUSTRY.

The carpet industry has almost completely disappeared from the Brussels district. The English have adopted the designs of the beautiful Brussels tapestry and introduced them to the trade as "Brussels tapestry carpets." The so-called Brussels carpets are manufactured in England and supplied to the Belgium market at prices much lower than those for which the same carpets can be produced in Belgium, for the reason that the English use modern machinery and manufacture in large quantities.

In 1889 there was but one small carpet factory in Tournai, which manufactured a velvet carpet, employing only 8 workmen. Since then the carpet industry has revived, and the Tournai factory is increasing its production. In 1891 an attempt was made to revive the carpet industry by employing the labor of the male inmates of the almshouse at Merxplas. This venture not only realized the anticipation of its promoter, but aroused interest which resulted in the establishment shortly afterwards of a branch factory at Westerloo. Imitations of Smyrna, Turkish, and Persian rugs were manufactured at Merxplas and at Westerloo. There were about 100 looms in operation in the two establishments. About 80 men, inmates of the almshouse, were employed at Merxplas, without compensation; and about 100 girls were employed at Westerloo, who were paid from 20 to 25 cents per day. A few years ago the manufacture of carpets at Merxplas was discontinued, but the factory at Westerloo has increased its manufacture and now employs about 150 girls. The present annual output is from 1,500 to 2,000 large rugs and from 3,000 to 4,000 small rugs.

UNITED KINGDOM.

FACTORY OPERATIONS OF KIDDERMINSTER—EXPORT TRADE.

Consular Agent James Morton makes a report on the carpet trade of Kidderminster, from which the following is gleaned:

The first carpet factory was erected in Kidderminster in 1735. It is also probable that the firm which established it was the first to weave the "Kidderminsters," now chiefly made in Scotland, but the manufacture of which by power looms has recently been resumed in Kidderminster. There are now some 14 firms engaged in the weaving of carpets, and 2 in the worsted spinning trade. The textile industry, however, is not entirely confined to Kidderminster, but embraces 1 large factory each in the neighboring towns of Stourport and Bridgnorth.

Large quantities of carpets are exported to Canada, Australia, and New Zealand, and other British colonies, also to Brazil, and other States in South America; a small and insignificant quantity still goes to the United States. France, Germany, and Russia, also take some carpets, and agents from the principal firms visit nearly every part of Europe to solicit orders.

Kidderminster exported direct to the United States in 1906 less than $40,000 worth of carpets; statistics of exports to other countries are not obtainable, but it may be stated that the exportation of "carpets, not being rugs," from the United Kingdom was $4,751,937 in 1905, $5,465,468 in 1906, and $6,000,433 in 1907. The shipments to the United States from the entire Kingdom for the three years in question were $260,000, $430,397, and $262,349, respectively.

ASIATIC TURKEY.

TRADE COMBINE FORMED BY A NUMBER OF CARPET MANUFACTURERS.

Consul Ernest L. Harris, who previously reported that six of the leading carpet manufacturers in Smyrna were about to combine their interests into one large corporate company, now adds:

This has been accomplished, and since January 1, 1908, they have liquidated their several individual interests, and are now known as the Oriental Carpet Manufacturers, Limited, registered in the British consulate-general of Smyrna. This is the first time that a great combine like this has ever been organized in Smyrna, and it must be looked upon as an experiment, for the present at least, the success of which only time will demonstrate. Of course this new company does not include all the firms in Smyrna which do a carpet business. A large number did not join the combine.

CHINESE RUG MAKING.

DEVELOPMENT OF THE INDUSTRY IN LEADING CITIES.

Consul-General James W. Ragsdale, writing from Tientsin, says that the American people are scarcely aware of the wealth of China in all sorts of woven cloths, and more especially as to hand-manufactured rugs and carpets chiefly made in Tientsin and Peking, where 1,000 persons or more are employed in the production of rugs of all kinds of material, i. e., silk, sheep's wool, camel's wool, jute, hemp, felt, yak hair, and even the hair of the cow. Mr. Ragsdale forwards some samples and designs of these rugs, accompanied by an illustration and description of their manufacture:

A high upright loom consisting of large beams above and below, from which the warp is stretched, is used. In front of these several men and boys (from 1 to 10, according to the size of the rug) are seated, knotting into the warp tufts from balls of yarn hanging overhead, the design in color being so placed that each workingman can see it without difficulty.

Workmen are paid at the rate of from 20 to 40 cents Mexican per day (about 10 to 20 cents gold). One square foot is an average day's work. The industry has recently been introduced in several of the industrial schools for the employment of the poor. The silk carpets are very like those produced in India, Turkey, or Persia in colors and quality of material, but vastly different in design if left to Chinese selection. Foreign designs, if furnished, are faithfully copied.

These rugs differ greatly in quality. In some the warp is cotton, while in others the warp, as well as the nap or woof, is silk. Some are made of even surface, while in others the figures are raised. The quality also differs in the number of warp threads used to the inch, which varies from 12 to 20, as well as to the quality of the silk yarn. The cheapest are sold at from $1.30 to $1.50 Mexican per square foot, while the better qualities readily bring from $2 to $5 per square foot. The quality most in demand, however, ranges in price from $2 to $2.40 per square foot. They are made in all sizes and are made for floor, table, and piano covers and wall draperies.

WOOL FABRICATIONS—YAK RUGS RARE AND EXPENSIVE.

The wool rugs are in far greater demand and are largely used throughout China, Japan, and the East. Many are exported to Europe, and lately to America. They are made on the same loom and in the same manner as are the silk rugs. Those of all sheep's wool, with cotton warp, range in price from 40 cents to $2.50 Mexican per square foot, the size, design, and color to suit the taste of the purchaser. The wearing qualities of these carpets make them a very economical floor covering, and age softens and blends the colors, which are, in all reliable places of manufacture, of vegetable dyes.

The carpets especially favored by the local residents and tourists are made from camel's wool, the prices ranging from 25 cents to $1 per square foot. These rugs are heavy, and frequently are fully one-half an inch in thickness. They are fashioned in all kinds of designs—floral, geometrical, and dragon.

The rugs made from the other materials mentioned (the yak excepted) are used only by the natives and range in prices from 5 to 25 cents per square foot. Those made from the hair of the yak are very rare and expensive, comparing in style and beauty with the finest silk rugs. They are made only in the interior provinces of China.

Rug making in China.

It is interesting to note the origin of the carpet industry in China. The method of manufacture was first used in making saddlecloths and trappings for horses used in processions and by Chinese of high rank, developing into the rug and carpet industry on the advent of the foreigner. The saddle blankets are still used, and often are highly finished in the most elaborate designs and patterns.

[Accompanying the foregoing report were samples of various designs and colors of Chinese rugs made from silk, camel's hair, and sheep's wool; also, 8 hand-painted patterns of rugs, which were obtained by the consul-general at considerable expense. These are all on exhibit at the Bureau of Manufactures. They will be loaned, in the order in which applications are received, only to textile manufacturers and textile schools.]

IMPORTATIONS OF BLANKETS AND RUGS.

PURCHASES OF THESE FABRICS AND COUNTRIES SUPPLYING THEM.

Consul Wilbur T. Gracey transmits from Tsingtau the following report regarding the importation of blankets and rugs in China:

Statistics show that a large trade in blankets and rugs is opening up in China which is continually increasing, and should serve as an outlet for American-made goods. The class of blankets which are most popular throughout Shantung, and North China generally, is a light-weight cotton blanket which is being imported principally from Japan. These blankets appear in four varieties on the local Tsingtau market, as follows:

First quality cotton blankets, Japanese, measure 1.53 by 2.12 yards, and sell locally at retail for $1.10 Mexican ($1 Mexican=about 50 cents gold) each. They are packed in boxes of 100 pieces and no discounts are made unless purchases are made of unbroken boxes.

Second quality, measure 1.42 by 1.92 yards, are packed in boxes of 200, and retail at $1 Mexican, each.

Third quality, measure 1.31 by 2.18 yards, are packed in boxes containing 300, and retail at 56 cents Mexican, each.

Fourth quality, measure 1.4 by 1.92 yards, are packed in boxes of 300, and retail at 75 cents each.

The continent of Europe, principally Germany and the Netherlands, exports a large quantity of these blankets to China. During 1906 the total importation into this country was 954,135 pieces, valued at 486,626 haikwan taels (1 tael=83 cents gold), 302,321 imported from Germany, 312,700 from the Netherlands, and 117,296 from Japan.

MARKET DISTRIBUTION—WOOLEN GOODS.

Shanghai is the largest market for cotton blankets, where 275,705 pieces were imported in 1906. Newchwang followed with 246,219, while Shantung Province (through the ports of Tsingtau and Chefoo) consumed 128,899. Many of these imported at Tsingtau came through the Shanghai markets, and did not, therefore, appear on the Tsingtau statistics. Some, however, were imported direct by two firms [names on file with the Bureau of Manufactures], which are the largest dealers in this class of goods in this city.

In addition to the cotton variety, large numbers of woolen blankets and rugs are imported into China. British blankets are found in the local shops weighing 9 pounds and selling at $8, Mexican, per pair; a better quality, weighing 12 pounds, sells for $10, Mexican, per pair. American blankets are found in only one quality, weigh 12 pounds, and sell at $18, Mexican, per pair. They are considered the best, but the prohibitive price puts them outside the means of most purchasers.

Woolen blankets are usually white with blue, pink, or brown borders, edges bound with silk ribbon. A popular variety shows a plaid pattern over the entire blanket in pale blue or pink, and another is a light-brown blanket with colored border.

Woolen rugs are very much used, the most popular being of a rough black surface, resembling fur, with a bright yellow back on which a brightly colored figure of a tiger is printed, life size. They are known as "Lao hu" (tiger) rugs, and are sold by the thousands to the natives. A variety of the same rug has the black fur effect on one side, a bright magenta fur effect on the other, occasionally varied by a bright vermilion back. The backs of these rugs are invariably very bright and florid, sometimes showing bunches of bouquets of highly colored roses or other flowers.

SMALL AMERICAN SHARE—SELLING METHODS.

During 1906, 1,767,757 pounds weight of blankets and rugs were imported into China, the principal market being at Shanghai, the statistics of the customs showing that 595,034 pounds were imported into that city. Shantung Province is the second largest consumer, 125,111 pounds having been imported through the two ports of Tsingtau and Chefoo. These blankets and rugs come principally from Great Britain, the imports from England (including Hongkong) having been 1,176,987 pounds during the year; 260,159 pounds were imported from Germany, and 287,204 pounds from Italy. The imports from the United States were so small that they were under 1,000 pounds and do not, therefore, appear separately on the statistics.

The blanket trade of China is valued at 1,192,213 haikwan taels, in which the United States has practically no share, and this notwithstanding the fact that much of the wool and cotton with which these goods are manufactured originates in the United States.

Most of the business is transacted through the regular piece-goods firms of the Far East, and the only way in which America could secure a share is by the manufacturers in the United States sending their personal representatives to China and, through American firms and American agents, compete with the business firms of Great Britain and the European Continent. The importation of blankets and rugs in China has increased enormously during the past three or four years, having nearly doubled since 1903, and most of this increase is due to the efforts on the part of German and Continental firms to cater to the wants of the Chinese people. A complete investigation of this market would well repay American manufacturers, who must cater to the existing trade.

MEXICAN DRAWN WORK.

DEVELOPMENT OF THE INDUSTRY ALONG UP-TO-DATE LINES.

Writing from San Luis Potosi, Special Agent Arthur B. Butman furnishes the following description of the textile drawn work of Mexico:

The product of perhaps no other domestic industry of Mexico is so well known in the United States as the Mexican hand-drawn work. Owing to the popularity of this work, it may be interesting to the American drawn-work makers and importers to obtain an idea of what drawn-work making means to-day in Mexico. The following brief résumé of the industry is therefore furnished. It is claimed that Mexican workers are unexcelled in the beauty of their product, either for intricate designs or fine workmanship.

The city of Aguas Calientes, capital of the State of the same name, may be considered the particular home of the drawn-work industry, although it is carried on in many other portions of the Republic. At Aguas Calientes it is the sole occupation of a large percentage of the female population, both women and girls. The commercial value of the work was practically unrealized until about twenty-five years ago. At that time the drawn work was an occupation of women of the poorer classes, who possessed patterns which had for a long time been successively handed down in the same family.

SECRECY GIVES PLACE TO MODERN INSTRUCTION.

These patterns or designs were jealously guarded. The work was crude. In many of the old designs the lack of a proper idea of construction is plainly evident. Commencing in one corner of the cloth square the worker proceeded to work around the square irrespective of the pattern, and when the ends met a discrepancy in design naturally resulted. The work was fringed but not buttonholed, and the edges were consequently uneven. These imperfections may doubtless have been the outcome of copying designs again and again by those who had never been systematically taught until the original perfect form was lost. In the modern pieces the difference is at once noted. The improvement in the modern drawn work over the old is largely due, first of all, to the energy and untiring efforts of a certain philanthropic American woman who became interested in this Mexican work and the woman workers of Aguas Calientes.

First these women were taught to do buttonhole stitching, later they were shown how to make a hem, and to hemstitch. It was then demonstrated to the workers that it was possible to inaugurate a system in the work, as well as in the design, and that by counting the threads—since the process of the work is first to draw the threads, then stretch the cloth in a wooden frame and afterward weave in the design with a short, fine needle—they would be able to make the design fill the square with uniformity.

Systematic and intelligent teaching followed, until from the straight work on pillowcases and napkins the women became able to accomplish the elaborate designs which are now for sale not only in Mexico, but are exported in considerable quantities to the United States. The work was also taught in the schools for girls. More or less difficulty was experienced in an endeavor to convince the workers of the practicability and personal advantage of working collectively and outside their own homes. For some years the women refused to do this; latterly, however, they have consented to go to localities where the rooms are of a size to enable them to work on the larger pieces, such as bedspreads and tablecloths, which can not be made in their small dwelling rooms. The greater part of the work supplied to local dealers is usually performed by contract, and it is said that the workers average an approximate daily wage of from 15 to 25 centavos (centavo=one-half cent American currency). Each person works on one design only. The linen used is practically all of Irish manufacture.

ENTIRELY A HOME INDUSTRY.

So characteristic is this particular handiwork of the country that articles with drawn-work designs are universally found in Mexican homes, from the square of coarse cotton thus embellished, covering the dinner basket of the poor, to the finest of linen tablecloths, exquisitely wrought, on the table of the wealthy. No accurate statistics either of the number of persons employed in the industry or of the value of the output are obtainable. To ascertain the former would be a difficult matter, the industry being, as stated, entirely a home one, but it is estimated that the latter reaches about $1,500,000 Mexican ($750,000 American) annually for the State of Aguas Calientes alone. This estimate is based upon the amount and valuation of the linen used in manufacture of the articles.

Large quantities of Mexican hand-drawn work are annually purchased in this country by tourists from the United States, the value of which is not known. Consul W. D. Shaughnessy at Aguas Calientes states that there was invoiced at his consulate as exported to the United States drawn work to the values of $10,000 for 1906 and $7,000 for 1907.

[Blue print illustrations and a catalogue showing designs of drawn work now being manufactured in Mexico were forwarded by the special agent, and may be seen at the Bureau of Manufactures.]

ITALIAN SILK MARKET.

DEPRESSED CONDITION OF THE INDUSTRY IN JANUARY.

The following report, covering the world's supply of cocoons and raw silk and the condition of the silk industry of Italy, dated January 31, 1908, is furnished by Consul James E. Dunning, of Milan:

The month of January has been regarded at Milan, the center of the Italian silk trade, as an exceptionally critical time, during which tendencies which began to manifest themselves late in 1907 and causes reflected from events both in and out of the market in the late autumn of 1906 would come to some sort of a definite head, indicative of their final effect. In so far as these conditions have approached anything like a conclusion, January has been a month of stagnation and broken prices.

For the last three months of 1907 prices fell off heavily from those of similar periods in 1906, though it is true that they remained higher than they were in either 1905 or 1904. At the end of December there had been a drop of about 12½ per cent from the market prices of 1906 at the corresponding date. January at Milan opened with this recession going steadily toward a lower figure, and until the middle of the month the movement continued. By the 20th the receding prices had lost about 30 per cent from the level of 1907, and there remain (January 31, 1908).

Many spinners who closed down their mills at the end of 1907 have not reopened them and are giving no promises of so doing. Others have opened on half time since January 15. Most of the January business was devoted to orders and to certain small lines for which the domestic market offers a more or less steady demand under all conditions. Such orders as came in—and on account of conditions outside of Italy, particularly in the United States, these were small in number—were accepted at prices and terms which served to unload a certain amount of overstock, but which had a disadvantageous effect on general market prices. The special halt in the movement of those weights of raw silk which form the bulk of the extensive trade with the United States rather glutted the home market in these qualities. This phase of the situation can best be shown by the statement that where this consulate had certified to the shipment of 1,273 bales of raw silk in January, 1907, the number of bales certified in January, 1908, was only 568. Nothing so well illustrates the present state of things between Italy and its foremost buying market.

A bulletin issued by one of the trade organs on January 31 stated that it was felt the last word had not then been said as to the low mark of prices, but that a rapid betterment of things was looked for in the United States.

SUPPLY OF COCOONS AND SILK—PRICES OF SILK WASTE.

During January the cocoon market was slow and presented a gradually falling scale of prices. The Milan Silk Association reported that the total world's supply of cocoons early in January was 8,239,193 pounds—the largest stock reported in five years—against 4,869,253 pounds at the beginning of 1907. The report of the world's supply of raw silk, including Italian, Chinese, and Japanese, for January, 1908, shows a total of 6,655,072 pounds, against 3,239,055 pounds in January, 1907. This vast overstock, when connected with trade conditions, can not be said to be favorable to the outlook.

The Silk Association and the Association of Silk-Waste Spinners have had long arguments in an effort to fix on a stated price for waste as a basis for future market conditions in this important article of shipment. The spinners, during January, presented an ultimatum, with a flat price of 66 cents per pound for raw silk waste, to apply to all visible supply of waste in this market. The Silk Association also arranged to market the entire visible supply of " recotti," the last refuse of the manufacture of silk waste, to a French buyer at 14 cents per pound.

Sales of spun silk waste for January were fairly good, and the outlook in this branch of the trade is regarded as moderately good, though prices have suffered along with those in all other branches of the industry.

SILK TRADE WITH RUSSIA.

The alarm created in Italy by the proposal of the Russian Government to place a prohibitive import duty on raw silk has been allayed by the negotiation of the new commercial treaty which leaves that valuable market still open. The Russian proposition contemplated a sliding tariff, beginning at nearly $10 per quintal (220.46 pounds), about 13.8 cents per pound, on the date of the going into effect of the new law, and increasing during the next following five years to nearly $100 per quintal (41 cents per pound).

The new import tariff arranged by the treaty is equal to 11⅔ cents per pound on Italian raw silk, or between 2 and 3 per cent of its average value. This is satisfactory to the Italian trade. Further provisions of the treaty will allow the free importation of cocoons into Italy from Russia, an important point.

Large quantities of silkworms and cocoons are brought into Italy from the Russian possessions in the Caucasus and Turkestan, while it is claimed by competent Italian authorities that as much as four-fifths of the silk imported into Russia is provided exclusively by Italy. Careful calculations made up in Milan estimate the value of silk exports to Russia in 1905 at $7,500,000.

SWISS RIBBON INDUSTRY.

METHODS FOR WEAVING, DYEING, AND FINISHING.

Consul George Gifford furnishes the following information concerning ribbon weaving and its allied industries—dyeing, finishing, and printing—in the Swiss city of Basel and surrounding districts.

Ribbon looms were restricted to weavers' dwellings until the steam engine, in 1840, brought the factory system, although the house industry still remains the most interesting branch of the business. In 1880, when nearly all the great factories were built, out of a total of 7,000 looms 5,000 were in the houses of the peasants of the adjoining country districts, and it is estimated that that proportion holds good to-day. The peasant weaver finds a remunerative and most welcome additional occupation at the loom for the leisure hours of himself and family, especially in winter, when his farming no longer engages his attention. The loom is furnished to him by the great Basel manufacturers, who also send him, by special messengers, the silk already warped, the shoot or woof wound on bobbins, and collect the finished ribbons, all without charge to him.

The peasant weaver has seen within a few years a complete and agreeable revolution in his trade through the use of electricity as the motive power of what can no longer be called the hand loom. To the village cottage and the lonely farmhouse the wire now brings power and light from the works on the Rhine, at Rhinefelden, and the weaver is thus enabled to employ all except quite small members of his family in an occupation which no longer requires any physical effort, but only intelligent attention.

The closely allied subsidiary industry of silk dyeing enjoys one great advantage which has, perhaps, indirectly helped the ribbon business of Basel in its competition with its European rivals, St. Etienne and Barmen. This advantage is the special quality of the water, which is declared to be of prime importance in dyeing—so important that orders for work are received from distant points in Europe in cases where the most satisfactory results that can be attained by the dyer's art are required.

OUTPUT—EMPLOYEES—MANUFACTURERS.

Basel has doubled in population within thirty years and now contains 130,000 people, but the ribbon business has not kept its relative rank as decidedly the leading industry of the little canton. The ever-growing tariff wall of the neighboring States and the forced establishment of factories on their territory by Swiss manufacturers—at Ludwig, Alsace, at Grenzach, Grand Duchy of Baden, and at Bregenz, Austria—has somewhat checked its growth as a strictly local specialty. The competition of Barmen, with its cheap ribbons, has also had its effect, while the enormous production of the better all-silk goods in Paterson and other American towns has much reduced the export to the United States. But there are still employed in the ribbon industry proper about 13,000 people, as stated by the secretary of the Basel chamber of commerce. To this number should be added 1,200 persons engaged in the associated and dependent industries of dyeing, finishing, and printing.

There are now 15 Basel ribbon manufacturing firms and corporations, from whose offices in this city not only the local factories but the numerous establishments in Germany and Austria, as well as the very extensive house industries of the Jura, are directed. All are large and solid houses, in many of which representatives of the families of those who founded them centuries ago are still active.

The average output of ribbons manufactured by Basel firms on Swiss soil may be taken as having a value of $8,000,000, seven-eighths of which is exported. At the present time England is by far the best customer. The value of ribbons declared at Basel for export to the United States during the fiscal year ended June 30, 1906, amounted to $1,035,548 and during the calendar year 1906 to $821,588.

WOOL TRADE.

AUSTRALIA.

INCREASED SALES—ANTICIPATED DECREASE IN PRODUCTION.

Consul-General John P. Bray sends from Melbourne, under date of December 21, the following review of the Australian wool trade:

The last wool sale in Australia for the year 1907 was held on December 20 and was very firm for the best merino, comeback, and fine crossbed. The following table shows the total offerings and sales (which are by auction) of wool, in bales, in Australia from July 1 to December 20, 1907, compared with those of the previous year:

	1906.		1907.	
	Offered.	Sold.	Offered.	Sold.
Victoria	297,966	285,179	353,653	318,578
Sydney	368,837	368,266	438,000	385,000
Adelaide	109,304	102,396	121,157	109,020
Brisbane	53,007	47,016	67,605	57,818
Total	829,114	802,857	980,415	870,406

The increase in sales is thus about 68,000 bales, as compared with the sales to the end of 1906. The following is an estimate compiled from trustworthy figures of the number of bales likely to be offered for sale during January and February, which will practically close the season, compared with the same two months in 1907.

	1908 (estimated sales).	1907 (actual).	
		Offered.	Sold.
Melbourne	51,000	123,309	130,692
Geelong	19,000	25,045	25,230
Sydney	180,000	280,201	266,674
Adelaide	2,000	2,815	2,698
Brisbane	15,000	10,285	9,586
Total	267,000	441,655	434,874

It is anticipated that the season will end with a decrease in the production of about 120,000 bales in comparison with last season.

ASIATIC TURKEY.

REACTION IN THE SALES MARKETS OF ASIA MINOR.

Consul Ernest L. Harris supplies the following report on the wool trade of the Turkish port of Smyrna:

The wool which reaches the Smyrna market is produced in Angora, Karahissar, Pergamus, and Cassaba. Shearings take place twice a year between the months of April and September. I have heard the statement made in Smyrna that if it were possible to introduce into Asia Minor and maintain some system of washing which would tend to refine the quality now produced, this country would be one of the best woolgrowing regions in the world. However, Anatolian wool is a very much sought after article in every market.

The crop for the past year was about the same as that of 1906. Prices opened very high, and shipments were brisk, until financial difficulties occurred, both in Smyrna and abroad, when absolutely no orders could be obtained. Stocks rapidly accumulated, and prices went down to an unheard-of limit. The action of the Smyrna banks in limiting credits and raising the rate of interest at the same time to 9 per cent on all loans forced holders to deposit their stocks in the banks' depots. But even at the present low prices there is no demand from America, at least for the time being.

During 1907, $199,711 worth of wool was invoiced at this consulate for the United States.

TOWELS IN CHINA.

STEADILY GROWING PURCHASES OF THIS TEXTILE ARTICLE.

The following report regarding the importation of towels into China is transmitted by Wilbur T. Gracey, consul at Tsingtau:

Tsingtau is the largest importer of towels in China, and during 1906 140,625 dozen honeycomb and huckaback towels passed through the customs at this port. The total importation of this class of towels into China amounted to 752,469 dozen during 1906, in addition to 924,024 dozen of other varieties. Of the huckaback, 231,957 dozen were supplied from Japan, which country also exported to China 627,233 dozen of other varieties of towels and toweling. Great Britain supplied 232,278 dozen and Hongkong (probably originating in Great Britain) 193,104 dozen of the huckaback quality, and of other kinds Great Britain supplied 233,732 dozen.

It will be seen by these statistics that the Chinese people are becoming large buyers of the cheapest quality of foreign towels. The varieties found on this market are mostly small, selling at retail at 10 cents Mexican (about 4½ cents gold) each, or from 90 cents to $1 Mexican ($1 Mexican equals 45.3 cents gold) per dozen. The entire Province of Shantung appears to have been supplied through Tsingtau. Several Chinese and two or three German firms are interested in the importation, the former making their purchases on the Shanghai market and the latter importing direct from Japan or Europe. The British variety of towel sells at a slightly higher price (15 cents each), is somewhat larger, and of a thicker and better quality. The demand for this class of goods and the importation from Japan has increased enormously during the past few years. The importation from Japan in 1903 of the huckaback variety was 63,395 dozen, which in 1906 increased to 231,957 dozen, while the imports of other varieties have increased from 273,118 dozen in 1903 to 627,233 dozen in 1906.

While it would probably be impossible for American manufacturers to compete with the Japanese on the cheaper grade of goods, owing to the advantages of Asiatic labor and nearness to the market, yet as regards the better qualities supplied by the British mills there should be an excellent opportunity for competition. There is a call for cheap toweling in China and by catering to the wants of this trade Americans can certainly secure a portion thereof,

NEW HEMP MACHINE.

EQUALLY EFFECTIVE IN SCUTCHING MANILA AND SISAL FIBERS.

Consul Thomas H. Norton, of Chemnitz, writes as follows concerning the new hemp machine which has been recently invented in Germany:

A German engineer has recently designed a scutching machine which can successfully replace the current manual operations and not only substitute mechanical power for human effort but preserve uninjured the finer fibers. The machine has been constructed by a prominent firm [address recorded at Bureau of Manufactures] at Magdeburg, and recent experiments have been conducted upon Manila hemp grown in German botanical gardens. The results have been so satisfactory that the constructing engineer is about to proceed to German East Africa with the machine and test for several months its full adaptability under colonial conditions.

The Musa textilis, of the Philippines, has been introduced into German East Africa and flourishes there, but botanists have found that the Musa ensete, which yields a fiber fully equal to the famous Manila hemp, is indigenous to the colony. The only difficulty encountered in this connection with the development of this tropical industry has been the lack of suitable machinery for the scutching or liberation of the fiber from the soft parenchyma which incloses it and from the tissues of the bark.

The operation of scutching as practiced in the Philippines is of the most primitive nature. The crude process of rubbing, beating, and shaving used in the Islands gives fairly good results, as far as the production of the coarser grades is concerned, but it is destructive of the finer and more delicate fibers, not only of the Manila hemp plant, but also of several other monocotyledons, particularly of the pineapple, the leaves of which yield a choice grade of fiber.

The invention is also adaptable for the sisal hemp of Mexico, the economic importance of which is increasing steadily.

The details of the new scutching machine have not yet appeared. Undoubtedly the invention will be of much importance in the evolution of Philippine agriculture and industry.

FORESTRY PRODUCTS.

LUMBER TRADE.

PERU.

DESCRIPTION OF A SUCCESSFUL SAWMILL IN THE IQUITOS REGION.

In a previous report Consul Charles C. Eberhardt, of Iquitos, referred to the field that exists in the Peruvian part of the Amazon Valley for the establishment of a lumber business, sawmill, etc., and also to a certain mill, within one day's journey of Iquitos by launch, which had been unusually successful. The consul now makes the following supplementary report:

The machinery used in the mill referred to could by no means have been called first class. This same mill has undergone considerable improvement during the past year, and while there are in all five mills of different sizes situated at various points along the river within a few hours' trip of Iquitos, this is the only one which can be said to be dependable, in a business way, the others running only at irregular intervals, chiefly because of inability to secure labor, either skilled for the machinery, or unskilled for felling the trees, etc.

Interior of sawmill, near Iquitos, Peru.

This mill, together with the carpenter shop (or planing mill), storage shed, tracks, dry kiln, etc., covers approximately 3½ acres of ground. The buildings are made of a framework of rough native timber, covered with roofing and siding of corrugated iron. The machinery in the mill proper includes two vertical saws, two circular saws, one band saw, winches, a 28-horsepower engine and other necessities of such an establishment, all of German or French manufacture, while that of the planing mill, including jointer, planer, band saw, circular saw, a 60-horsepower engine, in fact almost everything that goes to make up a first-class planing mill, has come from the United States, and the work is in charge of an American machinist with an American assistant. The dimensions of the sawmill are approximately 100 by 200 feet, the planing mill 40 by 115 feet, and the storing shed 40 by 80 feet.

OPERATIONS OF THE MILL.

I am informed that the original tract of land, of some 2,000 acres (all timber), and the improvements to date, have cost approximately $250,000 United States currency, a good share of the profits of nearly every year having been immediately reinvested in improvements; and while the owner has always earned a good percentage on his investment, he states that he has also lost very heavily at times, through lack of knowledge of how such a business should be conducted; that he has paid dearly for his experience, but that now, after having spent during the past year approximately $55,000 on improvements, he feels that he is in a position to reap big profits, having cleared something like $19,000 United States currency during that time, even after having undergone all the expense referred to.

While the other mills will naturally secure some of the business and may at some time in the future compete successfully, at present this one manufacturer may be said to have almost a monopoly of the lumber business. The mill has a capacity of about 6,000 feet per day, and as the demand for lumber is always in excess of the supply, the manager finds a ready market for all the output of the mill, though for several causes, chiefly scarcity of labor and logs, running daily at full capacity is rendered impossible.

As the rivers are depended upon entirely as a means of transporting the logs to the mill, only the timber near the streams is cut and later rafted downstream to the mill. Even on the tract belonging to the mill property, aside from logs that can be handled with a winch or windlass and cable from the nearby mill, only such trees as grow near the river have been cut down.

SUPERIOR RAFTING FACILITIES.

The mill also does a general jobbing business, and persons needing lumber raft their logs to the mill, where they are cut into the dimensions desired, the mill owner receiving in payment, one-half either of the logs in the rough, or the finished product. These logs are sometimes brought from great distances up the Ucayali River, and the methods employed by the men in their transportation are of interest. Usually 50 to 60 logs are securely rafted together with small poles and vines, and in charge of four men they are started downstream. A sheltering roof of thatched palm is built on the raft as a protection from both the sun and rain, and on this raft the men cook, eat, and sleep, using dugout canoes for excursions to land when a house is passed, and a supply of provisions, such as bananas, yuca, and rice, becomes necessary.

As the current is not very strong, the men have very little to do, and their experience is not very exciting, in fact, it becomes monotonous except for the occasional necessity for crossing the stream or getting the raft out of one of the "remolinas," huge whirlpools, which abound in the river, one raft having been caught in one of these and whirled in a large circle of approximately one-fourth of a mile in circumference for nearly a day before the united efforts of the men, working hard with huge and rather unwieldy oars, could extricate it.

Usually several such rafts are started downstream at the same time, and when within a few hours of the mill all but one are made fast to the bank, and all the men join in bringing this one raft to the mill. The men then return in canoes and bring another raft down, until, one by one, all the rafts are anchored safely in the river port at La Puritania, no raft ever yet having been lost.

In my report of a year ago the statement was made that "at present there seems no industry in this part of Peru where such profits can be made on comparatively small investment as a planing mill run by practical lumbermen along up-to-date lines." In view of the difficulty in securing labor, and the changed conditions in general under which one must work, it is well to repeat the advice always given to inquiries received at this office from persons in the United States regarding conditions in this region, that no northerner should ever think of investing money in tropical South America without first having made a careful personal investigation of local conditions, or having received a report thereon from a source known to be absolutely worthy and reliable.

ITALY.

DEPLETION OF ITALIAN FORESTS—SALES FROM THE UNITED STATES.

Clerk Michael Siersdorfer, of the Milan consulate, in answer to many inquiries received from numerous lumber and furniture wood firms in the United States, reports as follows:

In consequence of the annual decrease of Italy's supply in all kinds of building lumber and hard furniture woods, she must import them from almost every available country. Nearly all her wood building material is imported. Stone and brick are universally used in construction, and in the larger cities the erection of frame structures is forbidden by law. There is, however, a strong demand for imported dimension lumber for the beaming of roofs and so forth, while the furniture trade calls for a constantly increasing supply of special stock. The height of buildings being legally limited to five stories, there is every disposition to use wood whenever possible instead of steel, and steel framing is entirely unknown. Building is going on very rapidly throughout the Kingdom, and the industrial outlook is such as to promise an unabated demand for timber during the next twenty years. As Italy is entirely without native forests and an immense amount of wood must be imported during this period, opportunity is suggested for the American exporter.

There is evidently no field for American hardwoods used in the manufacture of furniture, as they are deemed too expensive by the

Italian furniture builders and can not compete with hard furniture woods, of various qualities, imported into Italy from all over the world through English, French, and German brokers. Ash is imported from the United States by the Italian Government to be made into cars for the royal navy. Small and irregular shipments of satin walnut, mahogany, ebony and cedar are also imported from the United States through English brokers, but, on account of high prices, the Italian furniture builder will substitute for them cheaper native or foreign woods wherever possible.

COMPLAINT AGAINST AMERICAN SHIPMENTS.

The Italian trade reports great dissatisfaction with recent American shipments. If this continues, according to Italian lumber experts, the trade between the United States and Italy will gradually die out and Italian builders will be compelled to attempt replacing the once satisfactory American stock with some other native or foreign wood, of better quality, cheaper price, and more readily procurable. A very strong point which led to the creation of the American trade was the large dimensions of the stock, in varied contrast to European lumber. Italian importers say that of late the American shipments have entirely lacked this distinctive quality, which was the reason for bringing them here at all.

The importations of lumber, etc., into Italy during 1906 were valued at $18,796,222. During the month of January, 1907, the imports of lumber from the United States into Italy amounted to 10,441 tons of a value of $178,847.

A HIGHLY DEVELOPED PIEDMONT INDUSTRY—TERMS OF SALE.

Consul Albert H. Michelson supplies the following from Turin:

Satin walnut and pitch pine are the two American woods most used in this consular district. Nearly all other woods are imported from Austria and the Tyrol, with fir pine first in importance. The making of furniture and fine woodwork is a highly developed and important industry in this district (Piedmont) and the very finest woods are widely used.

Terms of sale are usually thirty days after shipment to houses that accord 2 per cent off against such terms. A number of American exporters insist upon cash against documents, but there is no doubt that their business suffers thereby and that, other things being equal, the American house which offers the most favorable terms does the most business. Long credits are customary in Italy and obtain both among exporters and importers and are usually sound.

LACK OF TRANSPORTATION FACILITIES TO SICILY A DRAWBACK.

Vice-Consul Jacob Ritter writes from Catania as follows:

Hardwood is used here only in limited quantities and it would not be easy to develop an important trade in this kind of lumber. The bulk of lumber comes from Austria. It is seldom that steamers arrive from America which will load goods for this city, without transshipment at Genoa, Naples, or other places, unless the quantity amounts to 4,500 tons. This makes the freight and other charges so great for small lots as to render the importation difficult and even impossible.

GERMANY.

BUILDING INDUSTRIES CONSUME LARGE QUANTITIES OF WOODS.

Consul-General A. M. Thackara, of Berlin, states that Germany uses large quantities of hard and fancy woods in the building and furniture industries. He continues:

For building purposes by far the greater part is used in parquet floors and but little on walls or ceilings. The cheapness of labor and high price of lumber make decorated plaster walls and ceilings most popular. In the furniture industry much of this fancy wood is used in the construction of tables, desks, and cabinets. The present source of supply of this sort of lumber is East Germany, Russia, Austria, Scandinavia, and America.

Hamburg is the great lumber market for Germany, and practically all imported lumber passes through the hands of the big dealers at that place.

This consulate-general at all times strongly recommends to American exporters the importance of all literature and correspondence to German houses being in the German language. Long time is the rule on sales. When the goods arrive in Hamburg the importer deposits his note of sixty or ninety days with a banker in payment for the goods.

AMERICAN METHODS INJURIOUS TO BUSINESS IN MAGDEBURG.

Consul Frank S. Hannah, writing from Magdeburg, states that the outlook for the importation of American lumber into his district is not very favorable on account of the previous actions of certain lumber exporters in not living up to their contracts in the past. He adds:

In a personal interview with one of the largest lumber importers in this district, he gave me information concerning a previous experience of his, as follows: A year or so ago he had occasion to place a large order for American lumber to be cut in a certain way and after certain measurements suitable for the particular job for which it was ordered. After the acceptance of the order by the American firm, conditions arose whereby they did not care to ship the lumber, but after many letters and several cables they forwarded a shipment which did not correspond in any way to the one ordered and thereby caused the importer great inconvenience and additional expense in having the shipment resawed to meet his requirements. The result of this unbusinesslike procedure on the part of the American firm has so antagonized the importer that in his present state of mind he declares his unwillingness to accept a shipment of American lumber as a gift.

It is unfortunately a fact that many American firms only seek foreign trade when the occasion is forced upon them by lack of demand in the home markets, and when orders are placed with them, should a change in conditions enable them to sell the same merchandise in the home market, they refuse to ship. This, of course, as any good business man knows, does more to injure the growth of foreign trade than anything else. Germany should be a good market for American lumber; wood is very scarce here and very expensive and consists almost entirely of pine, but it will take painstaking and well-directed efforts to overcome the effects produced by such proceedings as mentioned.

INLAND TRANSPORTATION TO PLAUEN ADDS TO COST OF MATERIAL.

In response to an inquiry from an Ohio lumber company concerning the imports of American woods into Plauen, Consul Carl B. Hurst says:

At present there is no stock of American woods kept here. Sometimes American pitch pine and red pine are used in this locality for flooring, and Carolina pine for doors, ceilings and furniture; white pine is used in making wood patterns, and occasionally California red wood and yellow pine are called for in the trade. The dealers here cover their needs in American woods generally from wholesalers in Hamburg.

It would be a great advantage to quote prices c. i. f. some German seaport, as the ocean freight would be a rather uncertain quantity to the dealers in this inland town desirous of importing for the first time. The distance of Plauen from the large ports would be the greatest drawback to an extensive purchase of American woods, so that the cost of transportation would have to be very carefully reckoned.

NICARAGUA.

LITTLE DEMAND FOR NEW BUILDING MATERIAL.

Consul Frederick M. Ryder, of San Juan del Norte, writes that there is little demand for manufactured lumber on the Atlantic coast of Nicaragua to-day, local trade conditions being as follows:

In the interior a limited amount is consumed, some of which is prepared there. The foreign product used is from the United States. Some years ago, when business was in a flourishing condition, the lumber trade between New Orleans and Mobile and this coast was extensive.

In Bluefields the business activity anticipated at the time the city was rebuilt has thus far failed to materialize, and as a result many of the spacious warehouses built at that time are still unoccupied, and other buildings are rapidly decaying for lack of necessary repairs. The owners have become disheartened by the continued business depression and consequent lack of income from their real estate investments.

In San Juan del Norte there has not been a building of any kind erected during the past ten years in the construction of which new material has been used. When a new building is contemplated the design is adapted for the utilization of old lumber from unoccupied houses and bodegas, even though the dimensions of the building thus planned may not exactly suit the purpose for which it may be required. Building material is both scarce and expensive in this section.

RAVAGES OF CLIMATE AND INSECTS—A NATIVE SAWMILL.

Pitch pine is the only serviceable and durable lumber for use in this locality; soft woods will not withstand the constant dampness or the ravages of ants and other insects. Shingles have not been used here for some years, as the rain and hot sun destroy their usefulness. Roofs which had been shingled are now covered with corrugated iron. Many of the native houses are thatched with palm leaves. These make a durable roof, but soon become infested with scorpions, tarantulas, and other insects, which abound in this section, and these can be eradicated only by burning the covering.

A sawmill has recently been erected on this coast, about 150 miles north of this port, by a syndicate which has a concession from the Government granting the exclusive right of cutting hard pine in the public domain bordering the east coast. A considerable quantity of dimension timber and 1-inch and 2-inch material has been shipped to Panama the past year for construction work in connection with the canal. Another small portable mill, which is being utilized for sawing logs in clearing the Cukra plantation, about 15 miles from Bluefields, has been furnishing some material to that port lately.

There is no lumber importer or dealer in San Juan del Norte. A limited assortment of rough material is kept in a small yard in Bluefields, and when anything is required which is not usually carried in stock it is brought from New Orleans in steamers making weekly trips between that port and Bluefields and in such quantities as may be disposed of immediately. Freight is high and lighterage expensive, so that manufactured lumber is a luxury to be obtained only by the well-to-do classes.

CANADA.

AMERICAN INVESTMENT AND DEVELOPMENT IN BRITISH COLUMBIA.

Consul Abraham E. Smith, of Victoria, reports that an American syndicate, composed of forty-two capitalists, have purchased perhaps the largest single land transaction made in the Province of British Columbia, concerning which he adds:

There was unusual interest in Victoria in this matter. A number of railroad men and wealthy investors, residents of the middle Western States, chartered a large steamer and examined timber and coal properties on the Queen Charlotte Islands in which they held options. The syndicate, which is to be known as the Moresby Island Lumber Company, closed their options on 49 square miles of timber limits in the center of Graham Island, and also of 40 square miles on Moresby Island. They also purchased outright 8,000 acres of the choicest crown grant lands in Graham Island. The investment reaches several millions of dollars, the initial payment being $250,000. As a result of the trip a sawmill, to cost $400,000, will be at once erected by the company and located on Cumshewa Inlet on Graham Island.

Various members of the party also hold options on 10 miles of semianthracite coal lands on Graham Island, but it is reported that coal experts advised against the purchase, declaring that the coal is limited in quantity and unworkable, owing to the broken formation and lack of thickness in the veins.

The northern part of Graham Island is already in possession of another American syndicate, known as the B. F. Graham Lumber Company, and embraces both timber and coal lands.

CUT OF PINE LUMBER, RAILWAY TIES, AND PULP WOOD IN ONTARIO.

Consul E. A. Wakefield, of Orillia, sends the following report on the lumber trade of Ontario province:

The most recent estimates of the pine cut in Ontario received by the department of lands, forests, and mines give a total of 675,000,000 feet for the past year. Earlier in the season the estimates totaled 710,000,000 feet, showing a reduction in the later estimates of 35,000,000 feet, or about 5 per cent.

Information this consulate has received from various lumbermen is to the effect that not more than four-fifths of last year's cut of logs will be taken out. As many of the operators did not succeed in getting last year's logs to the sawmills the lumber cut this year should be equal to last season's. There is at present little demand for lumber, but as the stocks are in strong hands prices have not been lowered. Recently signs of improvement in the lumber market have been apparent. The original estimate of railway ties to be cut was 2,500,000. As the Canadian Northern, Grand Trunk Pacific, and Canadian Pacific railways are all obtaining ties in Ontario, the cut will probably exceed 5,000,000 ties.

The pulp wood cut is placed at 216,000 cords.

MOROCCO.

GROWING DEMAND FOR CHEAP GRADES OF LUMBER.

Consul-General Hoffman Philip, of Tangier, reports that there is at the present time a considerable and growing field in Morocco for the importation of cheap grades of American lumber. He adds:

This country supplies practically no lumber owing to the total lack of timber in the accessible districts. Building is going at an exceedingly rapid rate particularly at Tangier, and much European timber is therefore being used. Several shipments of American lumber have been sent to Tangier during the past few years and, in all but one instance, were apparently most satisfactory as regards price, quality, etc. The woods most in demand here are yellow pine and white pine. I see no reasons why American lumber exporters should not be able to compete here satisfactorily with the lumber merchants of Europe, and I feel confident that if careful attention were paid to this market by American exporters that they would soon be in a position to supply the greater part of all lumber consumed in this country. The demand for the finer class of hard woods is small as yet, but a considerable amount of hard-wood flooring is imported.

In the continued absence of any direct transportation facilities between the United States and Morocco, this matter should receive the most careful consideration of our intending exporters. With the assurance of reasonable transportation expenses the success of American lumber in this country should be assured. Former lumber shipments have been sent here in foreign sailing ships which have discharged cargo in the United States and are thus utilized for the return trip to Europe. Tangier, lying at the very entrance to the Mediterranean and but two and a half hours from the port of Gibraltar is in a most accessible position for ships from any port of the world.

Spanish is the principal business language in the coast towns of Morocco; English and French are also largely used and understood; Arabic, being the language of the native Moorish and Jewish traders, is also widely spoken among resident business firms. Business generally is carried on in Morocco on a credit basis of from sixty to ninety days; the banks of this country furnish excellent references and most of the business firms are able to give European references as well. My impression is that no long credit would be required in connection with importations of lumber.

CAPE COLONY.

PREFERENCE GIVEN TO THE AMERICAN PRODUCT AT CAPE TOWN.

Consul-General Julius G. Lay, of Cape Town, advises that the several dealers in that city prefer to buy the American lumber which they require through their London or New York agents, concerning which he writes:

One reason is that in London or New York their agent is able to make the best arrangements regarding freight rates, as he is on the spot where chartering of vessels must naturally take place. Another reason is that such agent, having had experience in exporting, is able to give proper instructions as to the loading of lumber and is responsible for the state in which the lumber is shipped and in which it arrives here. It would not be so difficult to get reimbursement for any loss through improper shipping from a firm who had a representative in Cape Town or even in London as it would from a lumber company at Puget Sound.

It is stated by firms here that they have tried getting their lumber direct from lumber companies in western America but almost without exception it has resulted to the disadvantage of all concerned. The methods of grading lumber in America are not the same as those used here and the difficulty in ordering from a lumber company which is not acquainted with this trade here is to make it plain just what is required according to the methods used here.

In 1906 British South Africa imported unmanufactured wood and lumber other than teak to the amount of 7,159,277 cubic feet, of which 1,808,185 cubic feet, valued at $433,158, came from the United States.

SWITZERLAND.

OPENING OF THE RHINE INCREASES SHIPPING FACILITIES.

Replying to an inquiry from an American company regarding the sale of lumber in Switzerland, Consul George Gifford, of Basel, writes:

Oak for flooring is extensively employed, but is supplied from local sources in Switzerland and in Alsace and Baden. If pitch pine can be profitably exported from the United States to this country, it is hard to see why other valuable woods should not also find a market especially under the favorable conditions of the new water route.

Formerly a very small quantity of hickory was imported by Swiss carriage builders, but of late I hear of no new shipments.

Very many efforts to import American goods into Switzerland fail by reason of the parties not being able to arrange terms by correspondence. Swiss importers almost always demand at least the three months credit to which they are accustomed in their dealings with other countries, while American exporters always want cash.

I mention as a matter of great importance that the Rhine has been reopened to navigation between Mannheim and Basel after a half century of interruption. Hitherto heavy goods from the lower Rhine, or foreign merchandise from Rotterdam at the mouth of that river, destined for South Germany or Switzerland, had to be transshipped at Mannheim or Strassburg and thence forwarded by rail, involving great trouble and expense.

UNITED KINGDOM.

DIRECT OCEAN SERVICE WOULD OPEN UP MARKET IN IRELAND.

Regarding the feasibility of shipping Puget Sound lumber into Ireland, Consul Henry S. Culver, of Queenstown, states that he can see no reason why it could not be successfully done provided one can get direct service to south of Ireland ports for small orders as well as cargo lots. He adds:

There is evidently some slight prejudice against the West Coast lumber on the part of contractors, since one or two complained of its rough stringy fiber, and claimed that it did not work as well as lumber from Quebec and Norway. This impression must, however, have prevailed some years since, for I have no knowledge of any recent cargoes from the west coast of North America.

All the timber and lumber imported into the south of Ireland comes from Canada, Norway, and Sweden, with a small amount from Russia. The timber from Canada comes in the shape of deals sawed into regular lengths ranging from 6 to 18 feet long, 9 inches wide and 3 inches thick. Some pitch pine is imported from Florida, and Alabama. The lumber from Norway and Sweden consists of spruce or pine flooring, and ceiling lumber tongued and grooved.

JAPAN.

CONSIDERABLE AMERICAN LUMBER USED IN FORMOSA.

Consul Julean H. Arnold, of Tamsui, writes as follows regarding the feasibility of shipping American lumber into Formosa:

As for the market in Formosa, I am able to state as the result of an interview with one of the largest dealers here that there is considerable American lumber in use in harbor and railroad works. At present this lumber comes via Japan. That which is in special demand is the Oregon pine girder measuring 25 to 30 feet in length by 1½ feet square. These are used in bridge and trestle work in railway construction and repair and for piles and girders in harbor improvements. Extensive harbor improvements in the port of Takao, South Formosa, are at present being inaugurated. Harbor improvements in Kelung, North Formosa, have been in progress for several years and it will require four years more to complete them. That there is considerable lumber used in these works is attested by the fact that the dealer in question stated that his contracts for supplying such materials ranged in amounts from $5,000 to $25,000 gold from time to time. The freight rate on lumber from Japan to Kelung is $1.60 per 40 cubic feet. At present this dealer pays 55 cents gold per cubic foot for lumber of the dimensions above specified.

FRANCE.

LYON'S INCREASED NEEDS OF POPLAR WOOD—GROWING OF TREES.

Writing from Lyon concerning the market for fir doors and other wood products in that section of France, Consul John C. Covert says:

Fir doors are very cheap in Lyon and throughout France generally. They are made of sapin (fir) and walnut wood. The best quality of fir boards sell at $19 to $20 per 35.31 cubic feet. This wood mostly comes from southern France, but some shipments are received from Switzerland. The best quality of walnut sells from $50 to $54 per 35.31 cubic feet, and is in great demand. Poplar is used almost entirely for the manufacture of boxes in which wines in bottles, silks, velvets, and ribbons are packed. The manufacture of these boxes is a great resource in France. There are 100 shops making boxes in Lyon. Poplar is cheap, selling at 8 to 12 cents per 35.31 cubic feet. Every landowner grows poplars along the ditches and the roadsides. Some farmers have 100,000 poplar trees and realize quite an income from their sale.

MANUFACTURED ARTICLES.

PARAGUAY.

OPPORTUNITIES FOR AMERICAN OFFICE AND HOUSEHOLD FURNITURE.

Consul Ernest L. Norton, of Asuncion, reports as follows concerning the opportunities for the sale of American office and household furniture in Paraguay:

The volume of business to be secured will not be very great, as Paraguay is not a heavy importer, but undoubtedly there is some new business to be developed, and it will pay American furniture manufacturers to investigate the market.

The local furniture factories, of which there are six, are operated on a very limited scale, and their output is confined to ordinary wooden chairs, flat-top desks, tables, bedsteads, and wardrobes. Two factories do work of a higher order in fine parlor and bedroom suites, but as modern woodworking machinery is not used, the work being done by hand, the cost of these articles is very high.

Plain wardrobes range from $25 gold and upward; with one or two mirror doors they range from $40 gold and upward. The higher-priced wardrobes are made of cedar. This is an article of furniture that our manufacturers should make special efforts to sell, not only in Paraguay, but in all South America. Very few residences in Spanish America have closets, and consequently every family, according to its means, has from one to half a dozen wardrobes in their houses.

In household furniture the principal demand would be for extension and solid dining tables, library and parlor tables, chairs, bureaus, dressing tables, and washstands. Hall racks, sideboards, and buffets are used in a limited degree, while sofa beds, folding beds, and kitchen cabinets could not be sold at all.

Parlor furniture in use to-day is generally of Austrian bent wood, with cane seats and backs, or else of solid suites of imported furniture, heavily upholstered in leather or tapestry. The bent-wood furniture is usually bought in suites, consisting of a lounge, a rocking chair or two, and a number of straight-back chairs. The bent-wood cane-seat lounges or sofas are invariably found in all of the better-class residences, and practically in all offices.

OFFICE EQUIPMENT—SALES METHODS.

Roll-top and flat office and typewriter desks, typewriter stands, filing cabinets, office tables, bookkeepers or standing desks, and sectional bookcases, would find a market here.

Card-index cases or the filing cabinets designed for special systems of filing and handling correspondence are not in use in Paraguay, and I do not think that their introduction could be effected, except through personal explanation and demonstration.

I have been informed that American furniture may be laid down here at a cost which will give the importer a slight advantage over the product of the local factories.

Manufacturers will find it well worth while to go into detail regarding the goods offered, when soliciting trade in this country. Give all prices f. o. b. New York, all discounts, cubic weights and measurements of the goods, state the kind of stock in the furniture and whether it is thoroughly seasoned in order to prevent swelling or warping in this hot climate, the manner of packing, and the ease of setting up the articles. Full instructions, in Spanish, should accompany each consignment.

As three months, and frequently longer, elapse before replies are received to letters addressed to the United States, every effort must be made to give the prospective buyer full information in the first letter, so as to secure his order while his interest is aroused. When obliged to write for information the chances are that he will either change his mind, or place an order elsewhere before a reply is received. [The names of the four principal furniture dealers in Asuncion are placed in the files of the Bureau of Manufactures.]

ASIATIC TURKEY.

OPENING FOR HOUSE FITTINGS AT SYMRNA—HOW TO SECURE TRADE.

Consul Ernest L. Harris, of Smyrna, furnishes the following information concerning the opportunities for the introduction of lumber products into Asia Minor:

Houses in this country are generally built of stone with a framework of wood. The wooden house, so common in the United States, is entirely unknown in this section, although quite in vogue in Constantinople. This apparently would seem to preclude all opportunities for lumber products, but there is a great consumption of such fittings as door and window frames, doors and blinds, staircase parts, and balconies, all of which are manufactured here from foreign lumber. This lumber, a kind of pine imported from Roumania, is light, knotty, and very seldom seasoned, so that it proves unsatisfactory almost invariably. Several years ago an attempt was made to import ready-made doors and blinds from Norway. The experiment, however, did not prove a success, owing chiefly to the goods not conforming in size and style to the requirements of the local demand, and also to the little effort which was exerted to push the articles into public acceptance.

There is undoubtedly an opportunity here for the sale of fittings. The very fact of the home-made product being unsatisfactory through the use of unsuitable and not seasoned lumber makes it easier for the imported articles to secure a foothold. Several conditions must, however, be considered by the American manufacturer of lumber products who desires to start a trade in Asia Minor. He must make up his mind that the trade in all lines requires the same attention and perseverance as is demanded in the United States. If he is not willing to study intelligently the needs of this market, and to exercise patience until his product is brought up to the requirements of the trade, it is best to drop the matter, as a failure through carelessness would only tend to retard the importation of articles which are bound to meet with eventual success.

The American manufacturer must also study carefully the freight question, and ascertain if the charges from his factory to this port would not be prohibitive, and if so, if it would not be possible to so devise the construction of the goods or the mode of boxing them as to reduce to a minimum the measurements of packages.

UNITED KINGDOM.

INCREASING DEMAND IN ENGLAND FOR TURNED WARE.

From information furnished to the Canadian trade commissioner at Manchester by one of the largest houses there the demand for turned wood of great variety is increasing, not only there but throughout England, and that Canada does not contribute very largely in these articles affords him some surprise. The commissioner adds:

It is difficult to enumerate all the different kinds of turned goods required in cabinet making, as there are numerous designs of all kinds of small spindles required; the other articles that bulk largely are table legs, chair legs, sofa and dresser feet, chair stretchers and spindles, also curtain poles in various lengths and diameters, broom handles, tool handles of every description, towel rollers, towel rails, and rolling pins.

Dowels are well worth consideration, and are mostly made from birch, in diameters from one-fourth inch up to 1 inch, with one-sixteenth multiples, and should be made in 36-inch lengths, but shorter and longer lengths are marketable, but only in moderate quantities, as by far the greatest demand is for 36-inch rods. Maple and oak dowels are purchased, but the trade prefers good birch. Pill boxes are largely handled here, but at present are supplied by Sweden, Norway, and Finland, also round boxes for needles and pins.

THE UNITED STATES SUPPLIES SHARE OF SCOTCH TRADE.

Concerning the use of wooden handles in Scotland, Consul Rufus Fleming, of Edinburgh, writes as follows:

The handles used here (chiefly hickory and ash) for various tools and implements are imported principally from the United States. Many sizes are in the market, from the longest hayfork handle to the shortest and smallest hammer handle. I am informed by local dealers in tools and hardware that the small handles (of birch, beech, or ash) for use in kitchen utensils, and chisels, screw-drivers, etc., are practically all produced in England, of native woods. The spools used by the great thread manufacturing concerns in Scotland are made in special departments of these establishments, to a large extent of birch imported from Maine.

CAPE COLONY.

AMERICAN DOORS AND WINDOWS PREDOMINATE AT PORT ELIZABETH.

At the South African city of Port Elizabeth Consul R. B. Mosher states that the United States practically controls the market in doors and has a large proportion of the trade in window frames. He adds:

Sweden is the only serious competitor in these lines, but American pine doors are preferred to Swedish ones of deal, for the Swedish doors in this climate not only contract and crack, but, as they are considerably heavier than those of pine, the difference in freight on inland shipments amounts in some cases to as much as 2 or 3 cents per door. As doors and windows are grouped with "Other manufactures of wood" in the official statistics, it is impossible to state the value of annual importations of those articles.

These goods are at present all shipped from New York through agents of the purchasers, and it is difficult to say from what portion of the States they come.

The present duty on doors and windows and all other manufactured wood except ceiling and flooring boards is 15 per cent ad valorem. On unmanufactured wood and on ceiling and flooring boards, planed, tongued, and grooved, 3 per cent ad valorem, with a rebate of 3 per cent ad valorem in both cases on goods from the United Kingdom or colonies. A new customs commission will meet in March to consider the revision of the present tariff. [A list of lumber dealers at Port Elizabeth who handle the foregoing articles is filed for reference at the Bureau of Manufactures.]

FRANCE.

UTILIZATION OF WOOD FOR DOMESTIC PURPOSES AT PARIS.

Consul-General Frank H. Mason, of Paris, advises that kindling and fuel wood are scarce and dear in Paris and generally throughout France, concerning which he writes:

The retail price of beech or hornbeam wood in Paris is from $10 to $11.19 per 2,220 pounds. Kindling wood, made generally of splinters or twigs bound into small bundles, sufficient to light a fire, are sold for $1.93 per 100, or 2 cents per bundle, which is relatively cheap, as labor in the country districts is poorly paid and the bundles of twigs contain the savings from the pruning of vineyards and the cutting of trees in the woods.

Kindling and firewood are sold in French cities by coal dealers. Firewood is free of duty when imported into France, but on entering Paris it is subject to the octroi or municipal duty of 50 cents per cubic meter.

WATTLE CULTURE IN NATAL.

A TROPICAL TANNING MATERIAL AND ITS EXTENDING USE.

In stating that it is not well known, even among the tanning trade in America, that the black wattle (Acacia molissima) industry in Natal is considerable, Consul Edwin S. Cunningham, of Durban, supplies the following detailed information:

The inquiry has often been made to this consulate by persons interested in its culture in this colony if no demand existed in the United States for wattle bark. That American tanners and dyers may have a knowledge of this new material some data is herewith presented concerning the present output and the possibilities of this district to provide an additional supply of this bark.

The black wattle tree was transplanted from Australia, and when first introduced into Natal there was no idea of its becoming a valuable commercial asset; but its beauty, combined with its quick growth, made it a particularly desirable tree for ornamental purposes, and with only this object in view its growth was first begun in Natal a little over a quarter of a century ago. It was in 1888 that the present Sir George M. Sutton issued a pamphlet entitled, "Wattle Bark: A Paying Industry," which gave his personal experience and pointed out for the first time that it could be converted into a valuable commercial product; and that date can be considered the commencement of the cultivation in Natal of wattle plantations. From about that period the wattle was intelligently and systematically planted and grown, until last year the acreage in wattle plantations in Natal was 80,762 acres, which will probably be considerably increased during 1907. Wattle bark has now attained to third place in the list of over-sea exports from this colony (although maize will probably supplant it in that position this year), and there is every indication of a continuous increase in the output.

GROWTH OF THE INDUSTRY.

The wattle industry gives a quick return, beginning about five years after the tree is planted. The tree needs no replanting, it being a perennial which the cutting of the first planting does not interfere with.

In 1886, 39 sample packages were sent to London, and were followed the next year by 447 packages. The encouraging and satisfactory reports received from these shipments—which continued to be made in packages until 1896—gave great confidence in the future of the business, and the plantations increased their production considerably. From the modest beginning in 1886 the output and shipments increased gradually until 1895, when 57,666 packages were shipped. The industry passed through its experimental stage during this period of ten years, in which was shipped a total of 168,193 packages, valued at $295,985. There were shipped in 1896, 3,378 tons; in 1898, 9,427 tons, and in 1902, 15,537 tons. In 1904 the shipments were valued at $452,151; in 1905 at $499,624, and in 1906 at $410,942. For the twelve months ended October 1, 1907, 297,410 bags of bark were exported, as against 209,998 in the corresponding period of 1905–6.

Trees are felled and stripped of their bark gradually after they are five years old. Complete felling will probably take place when the trees are ten years old. The average yield is estimated at one-half ton per acre each year.

In addition to the bark the wood is valuable, when there is a demand for this kind of timber. The cutting must take place when the sap is up, which is between January and August. The bark is then stripped from the entire tree, extending to all limbs of 2 inches in diameter. The bark in this form is dried; many plantations have large sheds in which to dry it, though sometimes, when the weather is fine, it is dried in the open. When it has become dry—which should occur after 20 or 25 days—it is prepared for market by being ground, cut, or shredded into small bits. It is then packed in bags of a muid (200 pounds) each, and is ready for export. The price varies somewhat, but the prevailing market price for first quality per ton is £7 ($34.07) f. o. b. Natal.

QUALITY OF SUPPLY—FREIGHT RATES.

To prospective buyers a word of warning is pertinent, because some farmers do not take the proper care in curing their bark, and when it reaches the European market it is dark, mildewed, and otherwise damaged; and it has been said that some unscrupulous persons have at times mixed other barks with the wattle.

The destination of the bark exported from Natal for the year 1906, in pounds, was: United Kingdom, 23,900,413; Germany, 6,218,073; Russia, 2,048,546; Austria, 580,396; Belgium, 300,119; and Mauritius, 6,992.

The quality of the wattle grown in Natal is equal to that produced anywhere, and analyses have shown it to contain as high as 40 per cent of tannin. At the present time there seems to be no serious competitor to Natal wattle bark, its cultivated and increasing supplies going far to meet the naturally grown and diminishing supplies from the original home of the tree. In the districts of Griqualand and Pondoland, in Cape Colony, cultivation of the wattle has been systematically undertaken, but the adaptability of those sections to its growth has not yet been proved. In German East Africa experimental tests have also been made, and bark from there, upon being analyzed at Hamburg, has shown 27 to 41 per cent of tannin.

The freight rate on wattle bark to New York per long ton is quoted at 37s. 6d. ($9.12), plus 10 per cent primage. Upon this a 10 per cent rebate will be paid, upon the conditions of the shipowners' contract being complied with. A ton measures 84 cubic feet when the bark is packed ready for shipment. Some samples of wattle bark are forwarded which have been prepared by a wattle-producing company at the request of an exporting firm. [These samples will be furnished to applicants by the Bureau of Manufactures.]

GROWING THE WATTLE TREE.

PLANTATION CULTURAL METHODS AND INCREASING PRODUCTION.

Supplementary to Consul Cunningham's recent review of the wattle-bark trade in Natal, Vice-Consul Russell Hastings Millward, formerly at Durban and now transferred to Tampico, Mexico, furnishes the following description of growing this tanning material:

More than 120,000 acres have been placed under cultivation, as compared with 15,000 acres in 1897. As a tanning material wattle is most satisfactory, and contains, in a consistent form, from 35 to 40 per cent of tannin. It is used by English, French, German, and Belgian manufacturers chiefly, and in the tanning of sole leather returns a product of unusually good quality, sound and uniform, and of a pale rose shade in coloring.

There is an erroneous impression that wattle will grow in almost any kind of soil, but the fact is that discretion should be used in the selection of the ground for the purpose. A well-drained soil, and an annual rainfall of 20 to 40 inches are most essential, and the sowing of the seed and laying out of the trees require more than ordinary care. In the months of April and September the plowing is generally done, and a single-furrow plow, drawn by oxen, is used in the initial turning over of the soil.

PLANTING AND THINNING.

The seed is then scalded in boiling water and planted at once, in order to prevent its molding or premature sprouting. It was discovered, possibly in Australia, that seed treated in this way would grow more readily, and nearly all planters have adopted the method. The rows are set from 9 to 10 feet apart, and the seed at the same distance. After six weeks sprouting takes place the young trees are allowed to grow for one year, at the end of which time they are thinned out and a second lot of seed planted.

In this manner, 5 or 6 generations of trees are set in, each just one year apart; and about the time the youngest trees are ready for thinning out the first generation is sufficiently developed for felling and stripping, and the space thus created is readily filled by the other trees coming on. After the fifth or sixth planting, as the case might be, additional preparing of the soil or sowing is unnecessary, as there is always sufficient seed sown by the trees to maintain a regrowth of such abundance that it only becomes necessary to thin out the crops annually.

LOCATION OF PLANTATIONS.

Experience teaches that trees should be kept at a uniform distance apart, but there are no fixed rules, and trees can be found frequently growing in the most promiscuous manner on some of the plantations. In order to prevent destruction of the trees by the veldt fires, so common to South Africa, clearings of considerable width are cut at the edges and sometimes around the entire forest.

Wattle has not been grown with any degree of success either near the coast or in the thorn veldt, but thrives throughout a strip of land lying between 15 and 70 miles from the coast, and in the districts adjoining the foothills of the Drakensburg Mountains; the Umvoti and Pietermaritzburg counties are particularly well adapted to its cultivation, and the tree is also grown in some parts of Zululand with satisfactory results.

The felling and stripping is done either in May or December, as the bark then contains its highest percentage of tannin; and also because it can be dried to much better advantage during seasons in the year when there is little danger of exposure to rains or dews. Notwithstanding that most felling is done when the tree is but five or six years of age, many planters prefer to allow the tree to attain a growth of from seven to ten years; but the increased returns are not proportionate, and the delay in felling is rather a hindrance to the younger trees, which require so much more space each year as they grow, and are naturally retarded if crowded too closely.

PREPARATION FOR MARKET.

Drying sheds are used on many of the plantations, and when outside drying is too rapid to permit of the bark being easily stripped, the trees are carried inside. Thorough drying requires two weeks' time under proper climatic conditions. The bark is then chopped or ground and made ready for shipment to the local buyers, who in turn sort out the various grades and repack for exportation to the outside markets. As a rule, the bark is chopped or cut into half-inch pieces and packed in sacks of 3 bushels and weighing about 185 pounds each. Most of the product has been exported in this form, but there is now an effort being made to erect plants in the colony for the purpose of grinding the bark and manufacturing an extract suitable for the trade.

After stripping off the bark the remaining timber is sold for use in timbering mines and for various kinds of construction work; it is also extensively employed as scaffolding in the erection of buildings. The waste cuttings and faggots are sold as firewood, for which there is at all times a ready and profitable market in the colonies.

Conservative estimates place the average annual crop of wattle at from 4 to 5 tons of bark, and from 20 to 30 tons of good timber to the acre. The cost of preparing the ground and planting varies from $7.50 to $10 per acre; while the total cost of production averages about $35 per acre, including the land, fencing, taxes, and labor.

Labor is performed chiefly by coolies (Indians), who are undoubtedly the most reliable and satisfactory workers in South Africa. Wages are paid at the rate of 24 to 50 cents per day, and ordinarily a cooly will fell his trees and strip and lay out for drying a half ton of bark per day of ten hours.

PROFITABLE RETURNS—MODERN AGRICULTURAL IMPLEMENTS.

During the seven months ending July 31, 1907, there were exported from Natal 19,017 tons of wattle bark, valued at $490,485, showing an average price of $25.70 per ton for that period.

Thus it can be seen that few industries present such inducements as the wattle. Land undesirable for any other purpose may be put into wattle; little or no skill is required to grow it, and but a small amount of capital is required with which to operate. On the other hand, results are measured and certain, returns are quickly made, and large profits assured. When the tree is once started, with the exception of fire, there is practically nothing that can devastate it, and, after the first crop is taken off, no further preparation of the ground or sowing is required, and there need be little fear of overproduction of this popular tanning material as the demand is increasing faster than the supply, and the market is extending, not only throughout Europe but in South America, the United States, and Canada.

Manufacturers of agricultural implements should keep in touch with the agents and dealers in Natal [lists of which are on file at the Bureau of Manufactures], as the farmers and planters are rapidly discarding the primitive methods so long in vogue there, and are now adopting modern appliances in all forms of agricultural work.

BRITISH FORESTRY PROMOTION.

INVESTIGATION BY COMMISSIONS—DECLINING TIMBER SUPPLY.

A report from Consul Frank W. Mahin, at Nottingham, states that for over twenty years past the conservation of British forests has been discussed and urged by persons interested and informed on the subject. The consul reviews the movement and its relation to the supply of timber as follows:

Twenty years ago a committee was appointed by the House of Commons to consider how "our woodlands could be made more remunerative." It reported in favor of forest schools and a national Board of Forestry, and remarked on the management of crown forests and private woodlands in the United Kingdom. Another step was taken several years later, when the Board of Agriculture was authorized by Parliament to collect forestry statistics and to financially aid forestry lectures and instruction, and a small sum was accordingly granted to four educational institutions for those purposes.

A third step was taken ten years later, when a committee was appointed by the Board of Agriculture to inquire into and suggest measures to promote British forestry. This committee made a report which aroused general attention. It pointed out that there was rapidly approaching a general shortage of the timber, and that a great waste area existed in these islands which might be afforested. But this, the report said, was too vast a work for individual effort to cope with; and while not urging the Government to undertake the task it indicated that no other course was practicable.

Five years later, in 1907, another step was taken by the Government purchase of an estate in Scotland and another in Ireland for practical work in afforestation. Special instruction in forestry has been established at Oxford, Cambridge, and other schools. Several great municipalities are planting forests on the areas whence their water supplies come. It now seems that the period of tentative inquiry has ended and that of actual demonstration has begun.

LACK OF INTEREST—INCREASING IMPORTS.

The lack of general interest in the preservation of Britain's forests is attributed mainly to the universal substitution of coal for wood as fuel, and to high prices of British agricultural products, leaving but a limited percentage of the population with special reasons for giving the subject any thought.

Meantime, during the past twenty years, while those steps were being taken, the imports of foreign wood and lumber into this country were enormously increased. That of fir, oak, and teak, sawed and as logs, gained from 50 to 86 per cent in quantity. Of furniture woods, mahogany increased 96 and "unenumerated" 288½ per cent, while the imports of wood pulp grew by 391 per cent. The only offsets were small decreases in staves and some "unenumerated" timbers.

At the same time the area of sources of supply was steadily decreasing. A large part of the imports was formerly drawn from Germany, which now can not only export no timber, but is itself an importer. The United States is also practically closed as a source of supply. Mahogany is imported from Mexico, Cuba, and the West Indies, and oak from Russia and Japan; but as to all other varieties local dealers say that Canada and the Baltic regions are practically the only present available sources of supply for Great Britain.

Statistics show that the United Kingdom has a smaller percentage of woods to other land and a smaller area of woodland per capita of the population than any other country in Europe. It has absolutely less woodland in acres than any other European country except Belgium, Holland, Denmark, and Portugal. The statistics count Turkey, Bulgaria, Bosnia, and Herzegovina as one, with five times Britain's woodland acreage, but give all other countries separately.

RUBBER INDUSTRY.

PERU.

WORKING THE FORESTS OF THE UPPER AMAZON.

As a result of personal visits to various districts and camps within the sphere of his consulate, which embraces trans-Andean Peru, Consul Charles C. Eberhardt, of Iquitos, furnishes the following report covering the manner of securing the right to work rubber tracts, the manner in which the same are worked, and how the product is collected and prepared:

Trans-Andean Peru would still be practically unheard of in the outside world were in not for the rubber industry. As nearly as I can gather, from conversing with leading lawyers and rubber men here, the laws of Peru covering the acquirement and working of rubber tracts are still incomplete and undergoing constant amendment. At present the following steps are held to be necessary:

Selection of a tract of land is made and the location, description, etc., of the property advertised in the official organ for thirty days, that any claims against said property may be registered. At the expiration of this time, no countercharges having been made, the prefect of the department is petitioned, and he appoints a surveyor to lay out the land, furnish a plan of the entire tract, etc. This plan, together with the original description of the land, petition to the prefect, and all papers bearing upon the subject are forwarded to Lima for final action.

LOCATING AND WORKING THE RUBBER TRACTS.

If the procedures in the earlier stages have been regular in every particular, the request is rarely refused, though the difficulty of communication between Lima and the Department of Loreto at present requires that from six months to a year usually pass before final title is received, and this is only in the form of a lease for ten years, with the privilege of renewing at the expiration of that time, as the lands are not sold outright. No fixed cost can be given for such procedure, because it differs according to the difficulty of access to the tract for the surveyor, the bargain made by the petitioner with different parties employed, etc.

The title for ten years having been secured, the petitioner may use the land as if it were his own, and his first movement is usually to place men at work locating rubber trees. One man will open up what is called an "estrada," consisting usually of as many rubber trees as can be visited and worked by a rubber gatherer in one day, the number of trees differing as the district may be thickly or thinly studded with such trees, the rapidity with which the rubber gatherer may work, etc. For instance, near Iquitos, many estradas contain but 75 or 80 trees, in the Javary River district the average is 150, while in the Acre district it is said that some estradas contain as many as 400 trees.

For locating an "estrada" and clearing a path from tree to tree the workmen receive $25 to $37 United States currency. When this preparation has been completed, all is in readiness for the work of rubber gathering, which goes on during the dry season, from July to January, the trees being tapped in a fresh spot every other day during that time. Work can not be carried on during the entire year for several reasons: (1) By such constant tapping the tree would be worked to death in a short time; (2) during the rainy season a great portion of the land is absolutely impassable, because of inundation; (3) the rain water flowing into the cups and becoming mixed with the liquid renders it unfit for market.

The rubber worker in the more thickly settled districts is usually a poor laborer, who buys his supply of provisions, consisting chiefly of rice and beans, from his "padrone," the owner or renter of the "estradas," whom he must pay in rubber, at prices prevailing at the time of delivery. Charges for provisions are usually extremely high, and at the end of the season the laborer, though he may have delivered a large amount of rubber, is rarely out of debt to his "padrone."

GATHERING THE RUBBER.

In a tract which I recently visited there were 24 estradas, worked every alternate day during the season by 12 rubber gatherers. I accompanied one of the men in his work, and performed part of all the duties of the rubber gatherers, from the cutting or tapping of the tree, placing the cups under the wounds, gathering the liquid, to finally smoking it over a half-smothered fire. Start was made at 5 o'clock in the morning and the work of tapping the trees and placing the cups (each with a capacity of probably one-half pint), performed. The smallest trees (about 6 inches in diameter, none of smaller size being worked) carry 2 of these cups, the largest we visited (about 2 feet in diameter) carried 9, though the average was 4 or 5 cups, on trees of from 15 to 18 inches in diameter. Much of this time we waded through the standing water of the swamps almost to our waists, and it was 10 o'clock before we had visited all of the 150 trees.

As soon as the entire round was made the milk-gathering was in order. Carrying a can of about 2½ gallons capacity, we visited the same trees and emptied the cups, many of which contained less than a tablespoonful of liquid, and the entire day's work produced about 2 gallons. Returning to the hut in the afternoon this liquid was smoked over a half-smothered fire, being poured over a round stick of about 2 inches in diameter, which is revolved in this cloud of smoke till the liquid is formed into a hard, white substance (which later turns black) of approximately two kilos (4½ pounds) of the best grade of rubber, or "jebe fino," worth at the present market prices about $10 United States currency.

A new series of wounds is commenced every month at a point as high as the workman can conveniently reach, each subsequent wound being made a little below and in the same vein, till the bottom of the tree is reached at the end of the month. When a tree has been overworked and the milk does not flow freely, a scaffolding is constructed about the tree, which the worker mounts and inflicts the wounds farther up along the trunk. This practice, however, is very injurious to the tree, if not absolutely fatal in the end, and is forbidden on the tracts which I have visited.

DESTRUCTION OF THE RUBBER TREES.

The foregoing are the methods ordinarily employed in Peru in working the "jebe fino," the best grade of rubber, and "jebe debil," the second grade. In the working of the "caucho," the cheapest grade of rubber, the tree itself is cut down and nature's work of years undone in a few moments. Thus it is that entire regions, vast in area, where the caucho was once to be found in abundance, are now entirely denuded of such trees, except for the young ones growing up, which will in time, of course, be far enough advanced in growth to be in turn productive, but it seems that natural recuperation can never keep pace with the present rate of destruction.

In spite of the assertions of many of the "Shiringeros" (rubber gatherers) that there is no cause for alarm at the increasing number of trees dying in proportion to the number of new ones springing up, and the further admitted fact that many of the trees which have worked for twenty and thirty years are still productive, there is no denying the fact that here in Peru at least the number of rubber-producing trees is steadily growing less. Systematic planting and cultivation would be of inestimable benefit to the country and the individual.

FEDERATED MALAY STATES.

COMPARISON OF THE EXPORTS DURING THE PAST TWO YEARS.

Consul-General Thornwell Haynes, of Singapore, supplies the following statistics of the quantity of cultivated rubber exported from the Federated Malay States during the past two years:

State.	1906.	1907.	Increase.
	Pounds.	*Pounds.*	*Pounds.*
Selangor	681,040	1,198,751	517,711
Perak	149,640	255,530	105,890
Negri Sembilan	198,112	530,004	331,892
Pahang	Nil.	Nil.	Nil.
Total	1,028,792	1,984,285	955,493

During December, Perak exported 30,784 pounds, Selangor 125,242 pounds, and Negri Sembilan 68,062 pounds.

TURKISH GUM TRAGACANTH.

SUPERIOR QUALITY OF SMYRNA ARTICLE—TRADE DIFFICULTIES.

A report from Consul Ernest L. Harris states that gum tragacanth is exported in considerable quantities from Smyrna, and that the sort particularly known as "Smyrna tragacanth" is said to be the best produced in Asia Minor. He gives the following particulars of this trade:

It is not grown, however, in the immediate vicinity of Smyrna, but comes from Karahissar, Jalowadsch, and even farther in the interior, where it all grows wild. This kind of gum consists of white, yellow, and red hardened substances, which have become congealed after oozing out of the bush, or tree, in the hot sun of a Levantine summer. The gum is secured in a similar manner as opium, by an incision in the branch. This is done in the spring and summer of each year, and the gum is usually scraped in September, when the first rains begin to fall.

During the last twenty years, the gum-tragacanth trade of Smyrna has decreased. It has been estimated that the trade has fallen from 600,000 pounds to 55,000 pounds in that length of time. One of the main reasons advanced is that the trade needs a large amount of capital, relatively speaking, to keep it going. Nowadays this product is shipped from the interior of the country to Smyrna in an unsorted condition. It is then sorted in this city into some seven different qualities in order to meet the demands of foreign markets, especially those in England, Germany, and France, where only certain grades are purchased.

Should the Smyrna merchant be unable to place all he has on hand in one season, he usually finds considerable difficulty in disposing of it at all. On the whole, the trade seems to be passing more and more to Constantinople. The exports of Smyrna tragacanth to the United States during 1907 amounted to only $15,656.

MATCHES IN NICARAGUA.

GERMANY AND SWEDEN SUPPLY THE TRADE OF THE COUNTRY.

In transmitting the following information Consul Frederick M. Ryder, of San Juan del Norte, calls the attention of the American manufacturers to the fact that nearly all the matches consumed in Nicaragua are of German and Swedish manufacture.

There is not a match of American manufacture in this district; merchants have tried in vain to place these upon the market, but consumers have condemned the product as not suitable in this climate, which has a record of 265 inches of rainfall in twelve months.

Not only must matches be especially adapted to the extremes of dampness and humidity of this climate, but they must be packed with the greatest care in order to protect them from any possible contact with such dampness. They should be wrapped in packages of 12 small boxes, and these done up in packages of a dozen each, wrapped in prepared waterproof paper, thus making a gross of the small boxes; 6 of these waterproof packages are then placed in a light tin case, which is soldered, thus making it air-tight; 6 of these tin cases are inclosed in a case made of good quality spruce, not more than seven-eighths of an inch in thickness, as this lumber is less liable to split and is more serviceable in every way for the purpose.

The sale of matches in the Republic being exclusively in the hands of the Government, there is only one customer for the manufacturer to deal with, and there would appear to be no reason why the American manufacturers should not have a fair share of the trade.

FORESTRY IN INDIA.

INCREASING GOVERNMENT REVENUE—SANDALWOOD CULTIVATION.

Consul-General William H. Michael, of Calcutta, reports that the British India government realized from the forests let for revenue during the past financial year the net sum of $162,632, other particulars following:

The gross revenue was $364,403. The income was 10 per cent higher than for the previous year, though it is stated that the revenue from this source is small compared with what it should be. It is stated that the young timber coming on will enable the government to greatly increase the sales of timber.

The Coorg forests are reported to have yielded 247 tons of sandalwood, worth $409,314, during the year 1906–7, the prices obtained being slightly lower than in the previous year. Measures for the artificial reproduction of sandalwood are being actively carried out in that province. In Hudgur and Banawara about 29,000 sandal seedlings were transplanted and uprooting of trees affected with the spike disease was continued.

INDUSTRIAL WORLD.

CONDITIONS AND DEVELOPMENT.

GERMANY.

LAST YEAR AN UNUSUALLY PROSPEROUS ONE—PRESENT TRADE OUTLOOK.

Consul H. J. Dunlap, of Cologne, forwards the following review of industrial conditions in Germany:

The annual reports made to the Chamber of Commerce in the various cities of the German Empire show that 1907, with few exceptions, was an unusually prosperous year. During the last two months of the year, however, since the beginning of the financial panic in the the United States, many branches of manufacturing lessened their output, owing to the decreased demand for their finished products from the United States. This may be said to be more general among those factories engaged in making articles of luxury, such as jewelry, torchon laces, and the finer qualities of fancy goods.

Reports from such industries as coal mining, iron and steel production, woolen goods, cotton goods, electric appliances, breweries, oil mills, fertilizer factories, and the like all show increased production. The annual dividends run from 4 up to 25 per cent, and more in some branches. In few instances have the directors of works and factories omitted a dividend, and where such action has been taken it has been because of extraordinary outlays for improvements or some unusual reason. In all instances the amount set aside for reserve and contingencies has been greater than in any previous year.

Just at present both labor and manufacturing appear to be waiting on the outcome of the financial conditions in the United States. So many industries are dependent upon the market of that country to dispose of their goods that they naturally feel a hesitancy about further outlay for material or production in advance of orders.

AGRICULTURAL PRODUCTS—INTEREST AND EXCHANGE RATES.

The season was not an especially good one for agricultural products, but in spite of many drawbacks the yield of all small grains was an average one, and the same may be said of tree fruits, apples and pears being in abundance in the local markets and at prices that compare favorably with those of preceding years.

There is a scarcity of American-grown apples, owing to the high prices in the United States. Generally at this season American apples sell here at $5 to $6 a barrel, seldom more than $7, this latter being a very fancy price, above which they can not be forced. There is no price quoted for American-grown apples in Cologne at this time, because they are practically not to be had at any price.

A report for 1907 by the Rhein Joint Stock Company for the Production of Beet Sugar states that the beet crop was much smaller than usual and the production of sugar less. The directors of the company favored a proposition before Parliament for reducing the national tax on sugar for home consumption from 14 to 10 marks per 100 kilos ($3.33 to $2.38 per 220 pounds), but expressed small hope of the proposition becoming a law. An annual dividend of 4 per cent was declared.

Of late years, owing to the industrial expansion in this district, the rate of interest has risen from 4 to 6 per cent annually. At the present time the bank rate is 7 per cent, but I am told by bankers that loans to ordinary borrowers are seldom made for less than 10 per cent. A reason for this is always given by saying the demand for money from the United States has caused the Reichs Bank to raise its rate of interest and made money scarce. It would seem that the much-quoted German system of supplying an elastic currency in time of high interest does not have the effect, at least in this country, that its advocates imagine it would have in the United States.

Exchange between Germany and the United States has not been much disturbed, ranging from 4.20 to 4.25 marks to the dollar, while between Germany and England it has risen from 20.20 to 20.55 marks to the pound sterling ($4.8665).

THE IRON AND STEEL INDUSTRY.

At a recent meeting of the National Association of German Manufacturers of Iron and Steel it was stated that the industry had been unusually prosperous during the past year and that the output had been materially increased, caused principally by the home demand, which was created by the favorable trade conditions of the country. The business of Germany had increased immensely. In over 1,500 savings banks of the German savings bank union there are deposits of over 9,000,000,000 marks ($2,142,887,138).

Another indication of this prosperity of the industry is the increase in the income and supplementary tax. All incomes under 900 marks ($215) are tax free. In 1892 there were 2,437,886 individual taxpayers connected with the industry and in 1906 there were 4,675,199, an increase of 91.8 per cent. The taxable property increased from 5,961,927,632 marks ($1,419,506,579) to 10,725,936,684 marks ($2,553,794,448) during the same period, an increase of 79.9 per cent, and the actual tax paid in 1892 from 124,800,000 marks ($29,714,290) to 206,800,000 marks ($49,238,095) in 1906, an increase of 73.7 per cent.

During the past few months the scarcity of money and the high rate of interest have caused a lessening of new undertakings and had a weakening influence on the industry. The financial panic in the United States has had an unfavorable effect on all industrial undertakings in other lands as well and caused a hesitancy in placing orders. There is, however, no question about the iron and steel industry being as yet fully employed. The increase in pig iron during the ten months of the year has been considerable, and during October, 1907, the consumption of 1,183,676 tons equaled that in October, 1906. Should the present unfavorable conditions continue, it is within reason to expect that the iron and steel industry will shrink to some extent.

Much loss to both the iron and steel and the coal-mining industry, which is closely related, has been caused by the scarcity of cars, which has increased largely during the past year, and a large wage had been lost through enforced idleness.

RAILWAY PASSENGER RECEIPTS.

The Kingdom of Wurttemberg on October 1, 1906, added a fourth-class car to its train service on Government-owned railways, in which the accommodations consist merely of wooden seats arranged around the sides and, in some cases, a double row of seats through the center of the car on which the passengers sit back to back. The rate of fare charged in such cars is 2 pfennigs per kilometer (100 pfennigs=23.8 cents; kilometer=0.62 mile).

The fourth-class cars are not run on the fast trains, and their operation has not been favorable from the Government's standpoint, the third-class cars on trains in which those of the fourth class were run being nearly deserted. A comparison of receipts and passengers was made from April 1 to September 30, 1906, and from October 1, 1906, to March 31, 1907. In the first period of the total number of passengers 0.1 per cent were first class, 5.23 second class, and 94.67 third class. In the second period 0.9 per cent of the total were first class, 4.15 second, 32.44 third, and 63.32 fourth. No less than 30.88 per cent of the third-class passengers changed to fourth. The fourth-class cars in trains carrying all classes outnumber all the others, and are patronized by many well-to-do people, not only for short trips, but for longer ones. The total passenger receipts for the first half year were, in round numbers, 10,377,000 marks, and for the second 7,772,900 marks (1 mark=23.8 cents). The season may have had something to do with this, as more people travel in summer than in winter, but the experiment shows that people do not care so much for speed and style as for cheapness.

A large share of the products of market gardens and orchards are transported to market on these fourth-class cars. The peasants take with them into the car large baskets containing their products and on arrival at their destination carry them on their heads to the market place. This saves the expense of a horse and also saves time over the transportation effected by means of a cart pulled by a dog.

INCREASE IN POPULATION.

Although a census is taken in Germany every five years, the last one being in 1905, an industrial census was taken in 1907, in which the inhabitants were also enumerated. While it will probably be some time next year before the report in its entirety is published, the number of inhabitants in the Empire has practically been determined.

The entire population amounts to 61,697,277 (in 1905, 60,641,278), an increase of 1,055,999, being an increase in one and one-half years of 1.74 to the 100, or 1.15 to the 100 population per year. Between 1900 and 1905 the yearly increase was 1.46 per 100, showing a small falling off. This may in a measure be accounted for by the fact that the regular census was taken in the winter, when many of those who perhaps seek employment in foreign countries are at home, while the industrial census was taken in the summer when many people are away from home. It was also shown that there is a marked migration from the eastern toward the western provinces of the Empire, much more observable than shown in any former census.

The census shows there were 30,453,270 males and 31,244,007 females, an increase of males from December 1, 1905, to June, 1907, of 568,589 and of females of 487,410. The large increase of males over females may be partially accounted for by the fact that during the summer many workmen from Russian Poland, Austrian Galicia, and Italy find employment in Germany on the farms and on public works.

The industrial census showed 13,459,520 households, an increase of 184,989 over 1905. There were 2,928,074 industrial establishments, a decrease since 1905 of 132,787.

CHINA.

EXPORTS OF PIG IRON TO UNITED STATES—INDUSTRIAL DEVELOPMENT.

In calling attention to the tendency in the Chinese Empire toward the production of commodities heretofore imported and to getting a foothold therefor in foreign markets, Consul-General Charles Denby, of Shanghai, deals at some length with the present and prospective exports of Chinese pig iron to the United States:

An occasional shipment of pig iron from China to the United States marks the beginning of a commercial movement which is worthy of attention. An American company operating a number of trans-Pacific steamships under the British flag has the agency of the Chinese furnaces for the supply of the Pacific coast. Occasional small quantities of pig iron are delivered at San Francisco by these vessels, as well as by the Pacific mail steamships.

The only shipment to the Atlantic coast of which I have been able to obtain definite knowledge is a cargo of 1,500 tons shipped on July 5, 1907, from Hankow direct to Brooklyn. The price laid down in Brooklyn is said to have been $17.50 gold per ton, including freight, $4.75 per ton from Hankow to destination.

This event is indicative of such far-reaching potentialities that it merits the attention of the iron industries of the United States. The carrying of such a commodity as pig iron 600 miles down the Yangtze River, from Hanyang to the sea, and then 14,000 miles farther, via Suez, and laying it down at New York in competition with American prices, is in fact a striking instance of modern trade development. This, of course, is only possible through the fact that ocean-going ships can reach Hanyang with 18 feet draft at almost all seasons of the year, permitting the carriage of cargoes of about 2,000 tons without transshipment, and to the fact that iron is found in great quantities in China, and produced under favorable conditions as to coal and labor.

IRON AND COAL FIELDS—AMERICAN DEMAND.

The most promising ore fields in China are situated in the vicinity of Hankow, lying in the provinces of Hunan, Hupeh, and Kiangsi. Those of Shansi and Hunan, covered by concessions to the Peking syndicate, while regarded as of almost indefinite richness, have not yet been commercially exploited on a large scale.

It is worthy of note that the Hunan and Kiangsi fields were explored by the American survey party which in 1898–99 made the preliminary examination for the line of railway from Hankow to Canton, which an American syndicate had contracted to construct.

The coke from the coal mines of Pinghsiang, in Kiangsi, near the border of Hunan, and the ore from the adjacent iron mines are used for the manufacture of steel at the Chinese furnaces at Hanyang, across the river from Hankow, at which are rolled the steel rails which supply the railways of China. These furnaces are under strong Chinese official management and their capacity has lately been largely increased with a view to obtaining a foothold in the markets of the United States. A table of the analyses of various Chinese coals by an engineer is forwarded herewith. [On file in the Bureau of Manufactures.]

The shipments of pig and manufactured iron from the Government iron and steel works at Hanyang for the year 1906 amounted to 41,050 tons, valued at $821,000 gold, an increase of tenfold in ten years.

American demand for ore and for pig iron has driven the furnace men to an investigation of the producing capacity of all the mineral fields of the world. Mexico, Cuba, Spain, South America, and Australia are being levied upon by the American purchaser, and if the iron of China proves as good as it is claimed to be the product may be a material factor in the supply of the American markets.

HANDMADE ARTICLES SUITABLE FOR EXTENSIVE FACTORY WORK.

The tendency in China toward the development of her manufacturing industries makes it opportune to consider the advisability for manufacturers of foreign nationality to enter into this promising field. It is evident that by reason of China's large population an immense demand would arise for an article of daily use if by modern machinery it could be manufactured at a cost even a little below the price at present paid by the consumer. In several lines it is believed that ample capital with the resulting facility for purchases on a large scale of raw material in the most favorable market, coupled with economical American methods of manufacture, skillful marketing, and intelligent advertising, will have a great advantage over the less advanced methods of the Chinese, notwithstanding the cheapness of their labor.

In several lines this has been abundantly proved. The manufacture of cigarettes by foreigners is an enormous and growing industry, rendered possible only by perfection of labor-saving machinery, careful supervision, and intelligent financing. Flour mills, paper mills, cotton mills, and rice mills also show by their successful operation the advantages of intelligence and business acumen in this field, where the insignificant market value of any unit of production seems to render it unworthy of attention.

CHINESE INDUSTRIAL PROSPECTS.

It is certain that the manufacturing development of China is destined to encroach upon hitherto untried fields. Two lines, namely shoes and ready-made clothing, seem to offer particularly favorable inducements for manufacturers of low-grade goods upon a large scale.

In both of these lines ample capital, faithful copying of Chinese fashions, foresight in purchasing raw material, skill in advertising and marketing, and a patient waiting for development would be necessary, while to the concern that could create and hold the market the returns would be immense.

With a view to ascertaining whether this idea will find a response among Americans with the disposition and means to consider the matter, I forward herewith three pairs of the commonest Chinese shoes [on exhibit at Bureau of Manufactures], for which there is an enormous demand. These shoes retail in the Chinese market for ninety-five cents Mexican ($1 Mexican=50 cents American currency) a pair, and sell in lots of 100 at 85 cents Mexican a pair. The same style in satin retails at $1.15 per pair and sells in lots of 100 at $1.05 per pair. These shoes are made in small shops by hand and are ordinarily sold in lots of 25 and 50, being made only in small quantities in a great number of shops.

Should this subject be found to warrant further investigation reports will be made and samples submitted of other articles of Chinese daily use.

CANADA.

OVERSUPPLY OF LABOR, LUMBER, AND COAL IN BRITISH COLUMBIA.

Consul Abraham E. Smith sends from Victoria the following review of the industrial situation in British Columbia:

The same lack of employment for labor which exists generally throughout the country is also evident on Vancouver Island. A year ago it was impossible to get men to perform the labor required; enterprises were abandoned, and work suspended. As a consequence, wages reached unprecedented figures. The lumber mills on the island also suffered from lack of labor. Thus the large mills at Chemainus and at Mosquito Harbor found difficulty in fulfilling contracts.

With the financial stringency which set in at New York in October a decided change took place. The decline in price and almost entire cessation of demand for lumber has caused the two largest lumber mills on the island, principally owned by Americans, to close down entirely, thus causing many idle men. The half dozen other mills are running only at half time, as their yards are filled with lumber for which there is no demand. It may be stated that the lumber mill at Mosquito Harbor shipped to New York by direct steamer last year 20,000,000 feet of lumber and shingles. The copper mines at Mount Sicker are also closed. The city of Victoria has endeavored to assist in giving work to laborers, by making improvements not heretofore contemplated.

COAL SUPPLY FOR SAN FRANCISCO—RAILWAY WORK.

The principal industry on Vancouver Island is coal mining. Last winter there was a shortage of coal all over the Pacific coast, and the fuel was scarce, even here in Victoria, only 40 miles from apparently inexhaustible mines. All extra men possible to secure were engaged, but miners were scarce, and those at work were discontented, being paid wages agreed to when prices were lower.

The limit of the agreement as to wages paid at Nanaimo mines, on this island by a fuel company composed almost entirely of Americans, expired on October 1 last. The wage schedule then came up for revision, and it was some weeks before the scale was adjusted satisfactorily. At that time the company had contracts for the delivery of large shipments of coal at San Francisco, and fearing the outcome of the arbitration with the men, to protect themselves, made arrangements for a certain amount of Australian coal to be delivered at San Francisco on the company's account. With the reaction of the last few months and the mild winter the demand for coal has fallen off. The fuel company is still bound by its Australian engagements, and the result is that the San Francisco market, which was formerly supplied by coal from Vancouver Island mines, is supplied by coal mined in the Antipodes, and on January 17, 250 men were laid off at the Nanaimo mines. The company announces that the length of time the mines will lie idle depends altogether on the revival of business in the San Francisco market.

The closing of these mines and consequent large addition to the number of idle men on this island was brought up in the local parliament on January 17, when the premier announced that the Canadian Pacific Railway, who now have over 200 men employed building an extension of the Esquimalt and Nanaimo Railway from Wellington to Alberni, via Nanoose Bay, would put an additional 500 men to work, the contract for grading 12 miles having already been let. This will relieve conditions somewhat.

ANTWERP DIAMOND INDUSTRY.

SERIOUS EFFECTS OF THE AMERICAN FINANCIAL CRISIS ON THE TRADE.

Consul-General Henry W. Diederich reports that nearly one-half of the 4,500 to 5,000 diamond cutters of Antwerp were thrown out of work through the failure of orders from the United States on account of the financial crisis. He continues as follows concerning the industry and trade:

The diamond trade of this city is one of the most important and valuable of Belgium. It is certainly the most exclusive trade in the world, and attempts are made on the part of cleavers, cutters, and polishers not to allow any outsider to become apprenticed, and in fact the decision on the part of the diamond manufacturers to introduce apprentices, owing to a lack of skilled labor, brought about a very serious strike two years ago.

About five years before this strike took place the men of the Diamond Cutters' Union succeeded in obtaining a promise from the employers that for five years no apprentices should be employed in the diamond factories and that the only new workmen should be those proposed by the union, and these were to be for the most part members of the diamond cutters' families. When this term of five years came to an end the manufacturers discovered that the trade was suffering for want of sufficient workers, and they decided to employ 500 apprentices. The strike which ensued resulted in a compromise, the employers reducing the number of apprentices to 300, and granting an increase of wages and shorter hours.

APPRENTICES—WAGES—EXCLUSIVENESS OF THE TRADE.

Apprentices are required to take a course of one year's instruction before being intrusted with regular diamond cutting. This begins by learning the formation of a diamond, the number of facets to be cut, and the handling of the machinery. For the latter work they are given crystals to cut. When the year's instruction is over they begin to earn a wage of from $6 to $8 per week.

The Antwerp diamond industry comprises about 40 factories and employs 4,500 to 5,000 men. Diamond cutters are paid a wage of $12 to $16 per week, cleavers $20 per week upward, while the sorters receive $6 to $10 per week; thus the average wages amount to $13 to $14 per week.

Thirty-five years ago the diamond trade was in such flourishing condition that a good cutter earned as much as from $220 to $250 per week. This remarkable state of things, however, attracted the attention of workers from all over the country; keen competition ensued, with the consequent diminishing of wages.

The secrecy of the art of cutting and polishing diamonds is maintained so completely that it is difficult to introduce this industry anywhere, save through Belgian or Dutch emigrating cutters. Thus some of the Antwerp manufacturers have emigrated to the United States, where they now supply a good part of the demand for diamonds in that country from works they have established there. A similar attempt has been made in London, where there are from 200 to 300 cutters.

The famous Cullinan diamond given to King Edward VII by the Transvaal colonial government as a birthday present can not be cut in England and will be sent to either Amsterdam or Antwerp, where it will take at the very least six months to perform the work. The fact that Antwerp is noted for the cutting of large diamonds and that Amsterdam makes a specialty of small stones indicates that the Cullinan diamond will probably come here, although nothing definite has been decided.

DIAMOND CUTTING, CLEAVING, OR SAWING.

The diamond-cutting industry is divided into three distinct heads, viz: Cleaving (which is now beginning to be called sawing, on account of a new machine recently invented for the purpose), rough cutting (known as brutage), and final cutting and polishing. The first process is that of cutting a large rough stone from the mine into smaller ones, but this is avoided as much as possible, unless the manufacturer knows that the smaller stones will realize a bigger price than would the one large one. Cleaving is also resorted to on those stones whose surface is too rough to enter upon the process of brutage. It follows therefore that the progress of cleaving is not resorted to in all cases, a majority of the stones being at once submitted to brutage.

In cleaving or sawing, the rough stone is placed in a metal receptacle with the side to be cleft downward, when a mold is placed over it into the top of which liquid aluminum is poured. This takes the shape of the mold and, after cooling, firmly secures the stone in its position, the mold being then removed. The cutting tool is a circular saw, about 4½ inches in diameter, made of soft copper, the edge of which is prepared with diamond dust and oil. The rough stone is then set with a slight pressure against the side of the saw, and remains in that position frequently as long as two weeks, according to the degree of resistance of the crystal. To superintend this operation the diamond cleaver has to be a man of long experience and natural skill.

Some manufacturers cut the products of cleavings into layers as thin as a heavy sheet of paper, and from these layers are cut what is known to the trade as the Antwerp rose, a specialty of this market. The circular saw, with its special apparatus for holding the diamond, was invented in the United States by a Belgian working there at the time.

ROUGH CUTTING (BRUTAGE) AND CUTTING AND POLISHING.

Rough cutting or brutage is a process which might be termed that of "diamond cut diamond." Two stones of similar size and degree or hardness are fitted into metal caps with cement. One of these caps is fitted to a rotary machine, of which the stone forms the center. The other cap is fitted to a long handle, and the cutter places this against the revolving stone, which is the first one to become smooth. Then the diamond held by the cutter is in turn put in the rotary machine, etc. The diamond dust produced by the rubbing of the stones together is carefully preserved and used with a mixture of oil on the final polishing disks as well as on the blade of the circular saw.

For final cutting and polishing the product of the brutage is set in position at the exact angle, either in a copper holder, into which it is firmly fixed by means of a clamp or held in position by a mold of lead, which has been heated for the purpose. For this work great skill is required on the part of the cutter, as many stones of one-eighth of an inch and less in diameter and weighing between 1 and 2 grains have as many as from 50 to 100 cut faces. When the stone is properly held by the clamp or mold it is pressed by the weight of the same against a revolving disk of soft steel, rotating horizontally at the rate of 3,000 revolutions per minute. The disk is covered with a film of diamond dust and olive oil. After this finishing process the diamond is marketable.

AMERICANS THE GREAT DIAMOND PURCHASERS.

Owing to the peculiar conditions of this trade, it is impossible to give correct statistics, as the custom-house at Antwerp has little control over exportations, the greater part of which are sent by post. Almost three-fourths of the world's production of diamonds are bought by the people of the United States. The declared value of these gems, covered by invoices presented at the American consulate-general at Antwerp during the year 1907, amounted to $5,230,519 for cut diamonds and $1,053,057 for rough stones. The bulk of this business was done during the first nine months of the year, as there were practically no diamonds sold to the United States in the Antwerp market during November and December, owing to the financial crisis. What an instantaneous effect financial slumps will have on the selling of luxuries may be seen from the falling off in the demand for diamonds on American account, as shown in recent statistics from New York, according to which the cut diamonds imported amounted in November to a value of only $593,000, as compared with $781,000 in October, $1,311,000 in September, $2,360,000 in

August, and $2,674,000 in July, the uncut products showing a similarly heavy shrinkage.

While the general business depression lasts the diamond trade will also suffer, but it is remarkable that while many commodities have fallen in price, and some of them enormously so, the price of diamonds, which are mere luxuries, has remained firm. This is easily accounted for if it be true that the powerful competitors in the diamond fields of South Africa have effected an agreement for a term of years, subject to a semiannual revision, as regards the price and quantity of stones to be taken over by the diamond syndicate at London. These are now said to be restricting the output, and consequently keeping the prices as high and as firm as possible. As long as all the mines are practically owned or controlled by this combination, forming one of the most powerful monopolies in the world, there is but little prospect of a reduction of prices in the diamond market.

COAL MINING IN GERMANY.

HIGH WAGES AND OTHER CONDITIONS WHICH INCREASE FUEL PRICES.

An outline of the conditions in the coal-mining industry in the Ruhr district of Germany is furnished by Consul H. J. Dunlap, of Cologne, with added information relative to the manufacture of coke, as follows:

The coal district of the Ruhr, in west Prussia, is one of the most important and extensive in the Empire. Owing to the high prices for coal the official reports regarding wages of miners in this district for the third quarter of 1907 were awaited with considerable expectancy, owing to the connection between the wages paid for mining and the prices at which the product is sold.

To the public demands for a reduction in the price of coal the mine owners reply that it is impossible, owing to the high wages paid miners, which are still increasing; besides that the new laws regulating the payment of sick benefits and pensions to disabled miners and their families will, even if rejected by the miners, considerably increase the expense to the mine owners by many million marks. At the recent meeting of the National Miners' Congress in Berlin the leaders of the miners' unions in the Ruhr district complained of much want and misery among their members.

The year 1900 has long been cited as a period of high wages, but in 1906 the miners began a movement for higher pay. This failed during 1906–7, because all statistics, even those of the miners' associations, showed the demands of the workmen to be unjustified, and the claims of the mine owners that they were paying all the wages that the business would stand were verified.

WAGE SCALE AND ASSESSMENTS—NUMBER OF MINERS EMPLOYED.

In the following comparison of the wages per diem of coal in the Ruhr district only the three chief classes of miners are considered. The young employees, who number about 3½ per cent of the whole, are not considered in the statistics. The amount of wage given is the net sum paid after all deductions for insurance and invalid rates. Salaries paid officials, office employees, and inspectors are not included. The comments made in the official report follow the statement, which is as follows (mark=23.8 cents):

Classes of employees.	1900.	1905.	Third quarter, 1907.	Increase, third quarter, 1907, over—	
				1900.	1905.
	Marks.	*Marks.*	*Marks.*	*Per cent.*	*Per cent.*
Miners	5.16	4.84	6.09	18.4	25.8
Other underground workers	3.36	3.40	4.09	21.7	20.3
Adult laborers	3.32	3.42	3.90	17.5	14.0
Average	4.18	4.03	4.94	18.2	22.6

> It may be seen from the table that wages have been increased about 20 per cent during the last eighteen months. No other class of workmen can show such an increase. On the other hand no one should fail to recognize the hardship of a miner's life and the danger connected therewith. In spite of all the miners of the Ruhr district maintain their supremacy among all classes of workmen. In addition to the wages, in many districts the miners purchase their coal at reduced rates in the winter, and, in some localities, are specially favored with cheaper prices for potatoes. Many thousands of them are housed in much better buildings in some of the lodging houses built by the mining companies, which are let to them on reasonable terms. Can any other class of workmen show such advantages?

The mine workers are required to pay large sums for the purpose of invalid and accident insurance. In 1905 a member of the coal miners' association of Bochum had to pay per annum, on the average, 27.15 marks for sick fund, 39.80 marks for pension fund, and 8.87 marks for invalid fund, a total of 75.82 marks ($18.04). To these funds the mine owner is required by law to contribute as much or more. Taking these facts into consideration and also the fact that the new law regulating these funds will add at least 10,000,000 marks to the expenses of the mine owners in this district, an increase in the cost of fuel to the consumer is most probable.

The number of adult employees in the Ruhr district increased during the second and third quarters of 1907 from 288,833 to 292,309. To this might be added the miners in Rhenish Prussia and the further increase in this district during October and November, and it would be safe to say that the total would amount to 310,000 men employed at the present time in the Rhenish Westphalian mining district, in which number the officials, office force, supervisors, and inspectors are not included.

SUPERIOR METHODS IN COKE MAKING—SECRET OF GERMAN SUCCESS.

Experiments under a competent expert have been made in Prussia during the past few months with western Pennsylvania coal to determine its comparative value with German coals, and the results of the comparison are said to be highly gratifying and show the superiority of the Pennsylvania article. All German coals for coking have to be washed, while such is not the case with the American coals tried here.

The experiments show that a great saving in coke making would be brought about by the utilizing of the by-products. If the new discoveries are as successful as is now anticipated, it will not be long before the manufacture of coke, instead of being done at the mines, will be brought near to the furnaces in large cities. Coke is a costly article to transport, owing to its light weight, while coal has a low freight rate. Instead of allowing the by-products of gas and ammonia to escape into the air, they will be used for smelting and illuminating purposes, and the small coke, of which there is an enormous quantity, can be used for fuel, as it will be near a good market, while at present it is simply thrown away as not worth the freight.

The export of aniline dyes made from coal tar from this district to the United States for the fiscal year ended June 30, 1907, was valued at $1,716,738, all of which might just as well have been made in the United States. The new system of coke making, which proposes to make use of all the by-products, will call renewed attention to this source of revenue.

The attention given by the German manufacturer to the saving of by-products and the utilization of every possible loss from his perfected article has been one of the most potent means by which he has attained such progress in securing the markets of the world. Not only cheaper labor, but great economy in every branch of manufacture has made it possible for him to compete with goods made in countries which have not only a high tariff, but one made especially to protect other manufacturers from his competition. These facts are beginning to dawn upon the minds of men who have wondered how a nation which purchases raw products from foreigners, manufactures them into merchantable articles, and sends them back to the country of origin can compete with articles made in that country, paying freight and other expenses both ways, as well as the duty.

LABOR CONDITIONS IN IRELAND.

COMPARISON OF THE COST OF LIVING FOR WORKINGMEN IN THE CITIES.

Writing from Dublin, Consul Alfred K. Moe states that a detailed report has recently been issued by the British Board of Trade dealing with working people's rents, housing, and retail prices, together with the standard rate of wages prevailing in certain occupations in the principal industrial towns of the United Kingdom. From this the consul derives the following relating to Ireland:

It is clearly set out that the report does not deal with earnings generally, but only with the standard rates of wages prevailing. Selected occupations are considered in another report which is very shortly to be made public by the board of trade. Arthur Wilson Fox, in a prefatory note, says:

> The object of the present inquiry was to obtain a standard and comparison of the cost of living. Fourteen officers of the board of trade took part in the local investigations. Assistance was given by the local authorities, town clerks, borough treasurers, medical officers of health, sanitary inspectors, rate collectors, clerks to guardians, overseers, surveyors of taxes, house and estate agents, property owners, tradespeople, cooperative societies, etc. The information was checked by personal visits to working-class dwellings in each town. Rents, prices, and rates of wages in the middle zone of London were taken as standards, and index numbers calculated for each of these items in every town. For Scotland and Ireland supplementary standards were obtained by the adoption of Edinburgh and Dublin, respectively, as bases.

The dominant factor in the housing of Dublin is the prevalence of subletting. This means that with each succeeding lease the rent goes up, as the lessee usually acquires the lease as a matter of investment. A very large part of the population in Dublin is accommodated in tenements of a small size, that is, in one or two rooms. Of the 52,263 families in this city at the time of the 1901 census, 60 per cent had only one or two rooms, 37 per cent being housed in one room, and 23 per cent in two rooms.

While these figures resemble the Scotch, there is the difference that in Dublin the working people live in old-fashioned houses long since abandoned by their wealthy owners and now let out to exploiting agents who in turn rent them by single rooms to tenants, each house containing from five to seven families, and often more, whereas in Scotland blocks of dwelling houses or flats, constructed for the particular purpose, have one or two rooms suitable for the accommodation of the workingman and his family. The Dublin houses are in very many cases in a most unsatisfactory condition; they are old and, of course, not suited to modern needs. They are deficient in sanitary accommodations and many of them can not be kept in proper repair because of their age and dilapidated state.

RENT CHARGES AND LIVING EXPENDITURES.

London shows a remarkably high level in rents as compared with the rest of England, and in Edinburgh the rents are only slightly in advance of those in other Scotch towns. In Dublin, however, the rents are very much higher than in any other town in Ireland. Apart from Dublin, tenements of one or two stories with two, three, four, or five rooms prevail in other towns. In Dublin the working people are housed in tenement houses, such houses having been formerly private residences and occupied by the wealthier classes. The rents in Limerick, Cork, Belfast, Londonderry, and Waterford are from 31 to 47 per cent less than in Dublin.

The following shows the predominant rents paid for the various sizes of tenements per week, including all rates: One room, 2 to 3 shillings (49 to 73 cents); two rooms, 3 to 4½ shillings (73 cents to $1.10); and 4 rooms, 6 to 8 shillings ($1.46 to $1.95).

The differences, especially between Dublin and the other towns, are very marked. As regards Dublin and Belfast, the two largest cities in Ireland, the difference may to some extent be accounted for by the fact that in the former the demand for workingmen's housing accommodation is rather in excess of the supply, while in Belfast at the time of the inquiry there was a large number of workingmen's houses empty. In the case of Belfast, however, land for building purposes is cheap, while the local rates are much lower than in Dublin. In the latter city the rooms are usually large, and the accommodation per room is greater than in Belfast or in the other Irish towns.

For six Irish towns the differences in prices are not very great. In Waterford and Belfast, the lowest and highest towns, the difference is mainly due to the lower price of eggs and meat in the former town. The price of coal was practically the same in all Irish towns. In rents and prices Dublin leads the list, but Belfast and Limerick follow closely, and Cork, Londonderry, and Waterford are 12 to 16 per cent below Dublin. It is estimated that the combined expenditure on rent, food, etc., outside Dublin would be from 7 to 15 per cent less than in Dublin.

The wage building rates are higher in Belfast than in Dublin, and are lower in County Limerick, Londonderry, and Waterford than in Dublin.

UNITED KINGDOM COMPARISONS.

Taking the mean of the rents and prices combined of all the Scotch and Irish towns, the Scotch towns are 5 per cent below London, and the Irish 13 per cent. Comparing the Scotch and Irish towns with England and Wales, and other than London, the rents and prices combined are higher in Scotland than they are in the English provinces, whereas the rents and prices combined in Ireland are on a level with Yorkshire.

In the matter of wages the mean rate in the building trade in Scotland is 14 per cent less than in London; about 2 per cent less than in the northern counties, Lancashire, the Midlands, and Wales. In Ireland the mean rate in the building trade is 20 per cent less than in London and from 5 to 11 per cent less than in the English provinces.

In the engineering trade the mean rate in Scotland is 17 per cent less than in London, and from 2 to 9 per cent less than in England and Wales, other than London. In Ireland the mean rate is only 10 per cent below London, and slightly higher than in England and Wales, other than London. These figures apply only to skilled labor.

STOCK COMPANIES IN GERMANY.

GOVERNMENT STATISTICS SHOW EXTENT OF INDUSTRIAL OPERATIONS.

The German bureau of statistics has just published a report on stock companies in Germany with figures up to the year 1907, from which Consul Carl Bailey Hurst, of Plauen, compiles the following:

It shows that the Federal authorities have for some years been arranging to keep permanent statistics of private companies in Germany. The report in question is the beginning of the investigations and furnishes the basis for consecutive statistics in this line. The results have not been reached altogether through official channels. It appears that there are 5,060 stock companies, with a nominal capital of 13,848,600,000 marks ($3,295,966,800), which includes 108 so-called Kommandit companies, with a capital of 577,510,000 marks ($137,447,380). It further embraces 27 German stock companies working in foreign countries and 11 German colonial companies. The actual paid-in capital of all the companies is not given, but is estimated at about 13,725,000,000 marks ($3,266,550,000). The reserves, loans, or mortgages are not stated.

The total number of companies is divided into 23 classes, of which may be mentioned the food and beverage industries, 904 companies, with 1,032,500,000 marks ($245,735,000) capital; banks, etc., 775 companies, with 4,427,000,000 marks ($1,053,626,000) capital; machinery and allied industries, 533 companies, with 1,624,400,000 marks ($386,607,200) capital; transportation companies, 479, with 1,517,600,000 marks ($361,188,800) capital; stone and earth industries, 357 companies, with 416,900,000 marks ($99,222,200) capital; textile industries, 342 companies, with 581,500,000 marks ($138,397,000) capital; mining, smelting, salt, and peat industries, 255 companies, with 1,311,200,000 marks ($312,065,600) capital; chemical industries, 140 companies, with 403,600,000 marks ($96,056,800) capital; insurance companies, 136, with 608,200,000 marks ($144,751,600 capital.

PERCENTAGE OF CAPITAL EMPLOYED.

According to the amount of capital, the banking houses include 32 per cent of the total; in machinery and allied industries the machinery manufactories have a capital of 610,000,000 marks ($145,180,000), electric plants 593,000,000 marks ($141,134,000), and electrotechnical supplies 297,000,000 marks ($70,686,000); the transportation companies include short branch roads not under State control and street railways, with 677,000,000 marks ($161,126,000) capital; shipping, with 460,000,000 marks ($109,480,000) capital; railroads, 303,000,000 marks ($72,114,000) capital; the food and beverage industries include breweries and malt houses, with 608,000,000 marks ($144,704,000) capital.

Of the total number of companies given, 488, or 9.6 per cent, work each with a capital up to 100,000 marks ($23,800); 45.9 per cent, or 2,323 companies, from 100,000 marks ($23,800) to 1,000,000 marks ($238,000) capital each; 40.4 per cent, or 2,041 companies, from 1,000,000 marks ($238,000) to 10,000,000 marks ($2,380,000); 3.9 per cent, or 199 companies, from 10,000,000 marks ($2,380,000) to 100,000,000 marks ($23,800,000); and 0.2 per cent, or 9 companies, with over 100,000,000 marks ($23,800,000) capital.

Among the latter may be mentioned the Deutsche Bank, with 200,000,000 marks ($47,600,000) capital; the Dresdener Bank and the Krupp Gun Works, each with 180,000,000 marks ($42,840,000) capital; the North German Lloyd Steamship Company, with 125,000,000 marks ($29,750,000) capital, and the Hamburg-Amerika Line, with 120,000,000 marks ($28,560,000) capital. These 9 companies united comprise 10 per cent of the entire capital of the 5,060 German stock companies. It appears that 904 of the companies given were founded in the years 1901–1906; 1,773 in 1891–1900; 1,857 in 1871–1890; 395 in 1851–1870, and 83 before 1851, of which 24 are insurance companies, beside textile industries, transportation companies, sugar refineries, banks, and coal mines. Six hundred and ninety-seven of the stock companies are situated in the Rhine country, while industrial Saxony is represented by 440 companies.

MARINE PRODUCTS.

BRITISH INDIA.

REPORTED EXHAUSTION OF THE BURMA PEARL FISHERIES.

Consul-General William H. Michael writes from Calcutta as follows in regard to the pearl fisheries of the Burmese coast:

The supply of mother-of-pearl shells from Mergui and Tavoy islands, which lie off Lower Burma, has been declining so seriously in recent years that to ascertain definitely if the pearling grounds are really becoming exhausted to such a degree as make pearling unproductive two experts were sent out by the secretary of state in the early part of last year to investigate the pearl banks of the islands and to study the life history of the Mergui pearl oysters. The experts have not yet sent in their report, but there is reported reason to believe the banks are becoming exhausted and are in need of considerable rest. Shells are now more difficult to obtain and are less numerous than formerly.

It was at one time proposed to close the pearling grounds, but the native pearlers were unanimous in opposing any such step. They declared that the productiveness of the banks has not appreciably diminished and the fact that the shortage in the supply obtained recently was entirely due to the class of divers having deteriorated. It is admitted that there is some truth in this argument, but all the pearling leases are owned by natives, who naturally are in favor of open banks. Formerly Australian pearlers worked there, but they left in 1900, owing to the diminution in the supply of the shell, on which they depended for their profits rather than on the pearls. The only European pearlers whose advice is now available, though they have abandoned pearling in favor of tin mining, are in favor of closing the fisheries.

Inquiries among divers themselves afford no useful information as to the habits of the pearl mollusk. They work more after custom and superstition than by observation. An application was made as far back as 1904–5 by the syndicate which leased the Ceylon pearl fisheries for the grant of a similar lease of the Mergui and Tavoy pearl fisheries and for pearling rights in a block off the coast of Tavoy, but the application was suspended pending the result of the investigation of the two experts sent out by the secretary of state of Burma.

JAPAN.

POSSIBLE USE OF VEGETABLE ISINGLASS IN PHOTOGRAPHY.

Consul-General Henry B. Miller, of Yokohama, makes the following report on the export of agar-agar (vegetable colle or isinglass) from Japan:

According to the local press it is stated that agar-agar, derived from seaweed, may possibly replace gelatin as a basis for photographic processes. It is further stated that lecturing before the Royal Photographic Society W. F. Cooper said that it has certain chemical advantages over its rivals and will in time mark a revolution in photographic emulsion making.

The agar-agar, known as colle vegetable or isinglass, is much produced in this country, and the exports of the same are as follows:

Countries.	1904.	1905.	1906.
British India	$1,852	$4,947	$10,558
British Straits Settlements	18,012	7,365	8,498
China	187,468	194,463	131,286
Korea	906	1,925	2,180
Dutch Indies	29,899	31,429	38,357
France	25,897	22,096	29,691
Germany	37,480	35,021	46,918
Great Britain	37,480	10,920	17,472
Hongkong	149,665	135,069	120,376
United States of America	15,158	12,143	35,358
Total, including exports to other countries	506,800	461,064	497,847

The total exports for eleven months ending November 30, 1907, amounted to about 2,000,000 pounds, valued at $488,715. The average price per pound exported in 1906 was 25 cents; in 1905 22 cents, and in 1904 21 cents.

WHALE FISHERY PRODUCTS AND PRICES.

Consul George H. Scidmore, of Nagasaki, reports that the supply of whale oil in his consular district is about 11,910 imperial gallons per month, and the price therefor ranges from $4 to $5 per "to," or 3.97 imperial gallons. Limited quantities of whalebone are on the market, the price for which per picul (132.3 pounds) is as follows: Finback, $11; humpback, $4.50, and right whale, $50.

MINING INDUSTRY.

ASIATIC TURKEY.

DECREASE IN PRICE AND GREATER DECREASE IN OUTPUT OF CHROME.

The following report, covering the decadence of chrome mining, and the causes thereof, in Asia Minor, is furnished by Consul Ernest L. Harris, of Smyrna:

Chrome is one of the valuable ores of Asia Minor. The most important mines formerly worked were those of Daghardi in Broussa. The mining center which has produced and exported the most chrome in Asia Minor is the locality termed the basin of Macri, of which the port of that name was the chief place for shipment. This port is in the vilayet of Smyrna, situated on the southern coast of the peninsula.

Considerable chrome was also shipped through the port of Smyrna. The mines are located in the mountains near Sarakeui on the Aidin railway line. There are also many other chrome pits which have been left unworked on account of the difficulties connected with transportation.

FALL OF PRICES—CRUDE HANDLING OF THE ORE.

Twenty years ago chrome ore sold in this neighborhood for as much as $100 per ton. The same quantity and quality can not be sold delivered to-day f. o. b. Smyrna for more than $17 per ton, and it often only brings $15. Chrome, like antimony, has dropped so much in price that it scarcely pays to mine it, and certainly not in districts much distance from the railway. None of the mines have even been worked on a scientific basis with up-to-date machinery. As the chrome of other countries comes on the world's markets in increasing quantities, that of Turkey must necessarily decline in the face of keen competition, not on account of the quality of the ore, but from the difficulties of internal transportation, if for no other reason.

Chrome in Asia Minor is usually found on mountains from 4,000 to 5,000 feet high. It is removed from the pits to the railway station or market on the backs of donkeys and camels. The surer-footed donkeys are used in the higher altitudes, and the camels for the plains. This method usually involves two or three transshipments between the point of origin and the port of Smyrna. It usually takes one donkey a week to carry 400 pounds of chrome ore from the pits on the mountain tops to the camel stations below. It then takes five camels one day to transport a ton of chrome over a distance of 15 miles. The last shipments of chrome made from Smyrna were 1,500 tons in 1906.

The largest firm which ever handled chrome at Smyrna has returned all its mines to the Turkish Government, as the annual tax upon the ownership of these mines amounted to more than they could be worked for at a profit.

The New Caledonia chrome mines are worked by convict labor, and the mineral can therefore be produced at prices which practically preclude competition.

VENEZUELA.

GOVERNMENT CONCESSION FOR EXPORTATION OF MAGNESITE.

Consul Thomas P. Moffat, of La Guaira, reports a recent concession by the Venezuelan Government, granting the exclusive privilege, for a period of twenty-five years, of exporting magnesite found on private lands in the island of Margarita. The Government is to receive 1 bolivar (19.3 cents) on each ton exported. It is estimated that the annual output will be from 12,000 to 15,000 tons. Work has been commenced on several properties, and shipments will probably be made very soon. A private contract is said to have been made between the grantee and an American company for the entire quantity exported.

LEATHER GOODS.

BELGIUM.

PROSPEROUS CONDITION OF BOOT AND SHOE INDUSTRY.

Consul W. P. Atwell, of Ghent, states that the boot and shoe industry of Belgium has in late years developed to important proportions. He continues:

According to published statistics, there are more than 200 factories in the country, all well-equipped, and giving employment to more than 200,000 hands. Several of the more important factories can turn out as many as 3,000 pairs of shoes a week. At this rate of production it is easy to understand that the supply considerably exceeds the demand. For this reason attempts have recently been made to export the Belgian made shoe, which is of an inferior quality and sells at a low price. Efforts have been principally directed toward England, where, after much trouble and sharp competition, some important orders have been registered. To further the export trade the Belgian shoe factories have now formed a trust, known as the Union of Manufacturers of Shoes for Export Trade. A few months ago the boot and shoe industry and, in general, all industries connected with the manufacture of leather were greatly disturbed by a sudden and unaccounted for increase in the price of leather.

Notwithstanding the low price of the native article, the American made shoe is becoming more and more popular, particularly with the better class of people. Belgian manufacturers, noting the increasing demand for American styles, are now imitating the American shoe.

There would appear to be a good market in this district for American made rubbers. The article sold here is heavy, awkward in form, and of a very inferior quality, and sells at a high price as compared with the American made rubber.

BRITISH INDIA.

GOVERNMENT EFFORTS TO ENCOURAGE THE CHROME TANNING INDUSTRY.

The Administration Blue Book, referring to the chrome tanning industry for 1906–7 in the Madras Presidency, is quoted by Consul-General William H. Michael, of Calcutta, as follows:

The government factory is reported to have continued to do good work, financial results have improved, custom has been extended to all parts of India, but though general satisfaction was given in the hides turned out, the qualities are stated to have been somewhat uneven. This variation is said to be largely due to the fact that all the hides worked at the government factory were limed and unhaired in outside tanneries, and to obviate this in future the government has provided funds for the necessary plant, which will be erected at Perambur. On the other hand, the record of private enterprise in connection with the industry is said to have been not altogether satisfactory, the Madras Chrome Leather Industry, Limited, with a nominal capital of $33,000, having ceased to do business. Elsewhere progress in the industry is indicated by the opening of a chrome leather boot shop in Madras, which is doing a considerable business, and the starting of a small factory at Suramangalam, in which the local tanners are interested. The Madras School of Arts is also aiding the development of the industry by the opening of a department for the sale of chrome leather manufactures.

The consul-general says that in his judgment the chrome leather manufactured in India does not compare with the American-made leather either for softness, flexibility, or finish.

GERMAN PUBLIC SERVANTS.

RAILWAY, POST, AND TELEGRAPH EMPLOYEES IN THE EMPIRE.

Consul Frank S. Hannah says that according to statistics recently published in a Magdeburg paper the number of employees in the service of railway, post, and telegraph in Germany has now reached the unprecedented number of one million. The consul further summarizes:

In the year 1906 the entire number of employees, including the apprentices and women engaged in the service of the railroads, was 648,437. In the postal service at the end of the same year 296,738 persons were employed. In these figures for the post are included all employees of the telegraph and telephone service. This gives a total number of employees at the end of 1906 of 945,175, and a proportionate increase since then would make the present number one million. Germany, with its approximate population of 63,000,000 people has, therefore, for every 60 inhabitants, about 1 employee of the railroad or post.

The railroad employees received during the year 1906 970,000,000 marks ($230,860,000) and for the year 1907, for which the figures have not yet been published, the amount thus expended is estimated at 1,000,000,000 marks ($238,000,000). Similar statistics for the post and telegraph are not published, but, taking into consideration the number of persons employed, this amount can not be less than 500,000,000 marks ($119,000,000). This makes a grand total of wages paid to railroad and postal employees of 500,000,000 marks ($357,000,000).

The German post-office department handles the largest amount of mail matter and has the largest number of employees of any European nation. The total number of pieces of mail handled during the year 1906 in Germany was nearly 8,000,000,000 pieces, while in Great Britain and Ireland, which occupy the second position, the number did not quite reach 5,000,000,000. This large amount of business and greater number of employees may be partly explained not only by the excellence of the postal system in general, but by its almost universal use by the people.

CEMENT TRADE.

JAPAN.

INCREASED NATIVE PRODUCTION REDUCES IMPORTATIONS.

The following newspaper item relating to the cement industry in Japan is furnished by Consul-General Henry B. Miller, of Yokohama:

> The total monthly output of cement in Japan, which was not more than 600,000 barrels two or three years ago, is believed to have increased to about 1,300,000 barrels, the producing capacity of every cement company being increased by 50 per cent. The industry was encouraged by the recent activity of water-power electric works, water works, and other engineering works. Now the import of cement is materially checked. By the financial depression of late business activity has died away, however, and the cement companies newly promoted have delayed the construction of factories, while the older companies have reduced output and are now watching the progress of events.

AUSTRALIA.

IMPORTS AND SELLING PRICE—ENLARGING LOCAL FACTORIES.

In answer to inquiries Consul Orlando H. Baker, of Sydney, New South Wales, furnishes the following information:

The imports of cement into Australia in 1906 amounted to 88,919,936 pounds, imported from the following countries: Germany, 50,441,990 pounds; United Kingdom, 34,648,653 pounds; United States, 257,152 pounds; other countries, 3,572,141 pounds. The wholesale price at Sydney varies, but is at present about $2.50 per cask of 375 pounds. The cement works in New South Wales produce about 1,000 tons per week, but they will soon be enlarged.

PIG IRON PRODUCTION.

COMPARISON OF UNITED STATES RETURNS FOR FOUR YEARS.

James M. Swank, general manager of the American Iron and Steel Association, gives the pig-iron production in the United States in 1907 as 25,781,361 gross tons, or somewhat in excess of preliminary estimates. The following table gives the half yearly production for the past four years in gross tons:

	1904.	1905.	1906.	1907.
First half	8,173,438	11,163,175	12,582,250	13,478,044
Second half	8,323,595	11,829,205	12,724,941	12,303,317
Total	16,497,033	22,992,380	25,307,191	25,781,361

The production in the first half of 1907 was much the largest for any six months in the history of the country, and promises to stand as a record for some time.

NICARAGUAN PAPER CONCESSION.

EXCLUSIVE RIGHT TO MANUFACTURE GRANTED BY GOVERNMENT.

Consul Frederick M. Ryder, of San Juan del Norte, advises that the president of Nicaragua has granted, and the National Legislative Assembly has approved, a concession for the manufacture of paper, the details being as follows:

Juan Carlos Serrano has been given the exclusive right to manufacture paper of all kinds from such raw materials as he may acquire in the Republic; in addition to the product of the Government forests, the contract also monopolizes the manufacture of paper from cotton, rags, straw, sawdust, barks, and all other materials, covering a period of eight years from December 18, 1907, the date Congress approved of the act.

Mr. Serrano is obliged to construct a paper mill, at some convenient location, within eighteen months from above date; free entry is granted for all material used in construction of the plant, for the machinery equipment, chemicals, and everything necessary for the manufacture of paper and maintenance of the enterprise. The capacity of the mill, as well as the modern character of its machinery, must be equal to any demands which may be made upon it for the requirements of the Republic.

In return for the privileges granted, and that "the people may derive benefit from the establishment of the new enterprise," it is stipulated in the contract that "the concessionarie is obliged to instruct ten young men (whom the Government shall designate) in the art of modern paper making." The product is to be sold as low as possible, and the Government is to be furnished its supply of paper at a discount of 20 per cent from the established price.

The concession, including all of its rights and privileges, may be transferred to an individual or syndicate who can assure the Government of its ability to carry out the provisions of the contract.

JAPANESE WATER POWER.

LARGE ELECTRICAL DEVELOPMENT POSSIBILITIES—PRACTICAL NEED.

Consul-General Henry B. Miller, of Yokohama, invites attention to the following report of an electrical expert on the possibilities of development of electrical power in Japan:

In the case of one power site on the Tashiragawa the construction of a tunnel 3½ miles long would, it is stated, secure about 66,000 horsepower, and at another power site by means of about 10 miles of tunnel and a certain amount of open canal construction 150,000 horsepower could, it is reported, be secured. In the first instance there is a good reservoir site for storage, while in the second instance advantage would be taken of natural lakes. These sites, and others which have been surveyed, are in the Fujiyama district. Additional sources of power are near Nikko, where Lake Chuzenj would form the large reservoir, and where with 4 miles of tunneling a fall of 2,000 feet could be secured; also in the Lake Inawashiro district, where the construction of 4 miles of tunneling would provide upward of 50,000 horsepower. An inspection of the principal sites and a study of the rainfall statistics over many years point to the probability of the initial plants giving, even during periods of drought, 300,000 horsepower.

A favorable feature of the scheme is that the power sites provisionally selected are located within a comparatively short distance of Tokyo, where at the outset the bulk of the power would be taken. Between the capital and the sites referred to there is a minimum transmission distance of 80 miles and a maximum of 150 miles. It is estimated that the present requirements of Tokyo represent 48,000 horsepower, and that plants which will call for an additional 20,000 horsepower are in process of erection. These figures do not, however, include the electric road from Tokyo to Yokohama, or the elevated road which is being constructed by the Government in Tokyo. One of the chief power sites is within 135 miles of the old capital, Kyoto, and Osaka, the Manchester of Japan, is only 160 miles distant. It is believed with the growth of the interurban tramway systems in Japan there would be an immense field for cheap water power. Owing to the high price of coal the cost of steam power is high, and the utilization of water power should prove an important factor in the industrial development of Japan.

LONDON'S ELECTRICITY.

AMOUNT USED AND COST TO CONSUMER DURING LAST YEAR.

Consul-General Robert J. Wynne reports that a return was issued by the British Board of Trade recently showing the consumption of and prices charged for electricity by the London authorities and companies whose undertakings lie within the Metropolitan Police District, from which he secures the following facts:

A total of 87,000,000 units was delivered for all purposes by local authorities last year, and 213,000,000 by companies. The prices charged per unit compare thus:

	Local authorities.	Companies.
	Cents.	*Cents.*
Power and heating	2.60	2.90
Private lighting	7.34	7.66
Public lighting	3.70	3.24
Average receipts for all purposes	5.126	6.06

It will be seen that the average of the municipal electricity is less than that supplied by private companies, but there is nothing in the report to show the financial stability of the various undertakings. West Ham enjoys the cheapest electricity in the whole district, the local council charging 1.9 cents for power and heating, 5.4 cents for private lighting, and 2.78 cents for public lighting, the average price received by the council per unit, taking into account the quantity delivered in the different classes, being 2.96 cents.

CROPS AND FOODSTUFFS.

OLIVE CULTURE.

GREECE.

UNUSUALLY GOOD YIELD IN PELOPONNESUS AND CORFU.

Consul Edward I. Nathan, of Patras, reports that the olive crop for the season 1907–8 in the Peloponnesus, Greece, is unusually large, especially in comparison with that of the previous year, which was almost a total failure. The consul gives the following trade and cultural information:

The former season's nonproductiveness was due to the excessive rains and hail storms then prevailing, while this season the favorable weather conditions served to increase the size and improve the quality of the crop. In the province of Achaia, in the northwest of the Peloponnesus, it is estimated that the crop will aggregate 300,000 to 350,000 okes (about 850,000 pounds, 1 oke being 2.8 pounds). The previous year's crop in the same province was only 80,000 okes. In the district of Pharron, in the north of the Peloponnesus, this crop is estimated at 100,000 okes (282,685 pounds), an increase of one-third. In the southern provinces of Messinia and Laconia the crops are reported to be unusually large and the olives of a superior quality, due in a great measure to generous rains after a prolonged period of dryness. The yield of olive oil from the latter districts alone is estimated at over 5,000,000 kilos (about 5,000 tons.).

While there is a large and increasing quantity of olive oil exported to the United States, the exportation of olives is not as great as might be expected. In fact the entire olive crop available for export is very small, owing to the destruction of the olive trees in 1900 to make room for the cultivation of currants, then at a premium, because of the needs of France, owing to the failure of the latter's grape crop.

BEST QUALITY—CORFU'S PRODUCTION.

The olives exported from the Peloponnesus are black in color and are sent pickled in brine. The finest variety is grown to the north of the Peloponnesus, on the plain about Amphissa, on the north coast of the Gulf of Corinth. About 90 per cent of the crop of this district is exported to the United States, largely through Patras, the chief port of the Peloponnesus. Kalamata, in the southwestern part, is another important place for export.

Corfu, a large island lying northwest of Greece, also exports considerable olive oil, mostly to Russia, England, and France. Only about 100 tuns of 252 gallons each were shipped to the United States from Corfu during 1907, while during 1906 some 300 tuns had that destination. The latter were, however, what remained of the previous year's abundant crop.

The crop in Corfu for the season 1907–8 is very large and is expected, according to information sent from there by American Consular Agent C. E. Hancock, to yield about 14,000 to 15,000 tuns of olive oil, ranking second only to the crop of 1905, the largest known crop for thirty years. The crop for 1906 was practically a failure, producing only about 150 tuns of oil.

BENEFIT OF A SNOWFALL.

Previous to 1905 there had been a succession of very poor crops, and it was thought almost generally that a good crop would never again be seen and that the trees had become hopelessly diseased, but a comparatively heavy fall of snow in the early part of 1905 with a hard frost following seems to have killed the germ of the fly that had been so increasingly destructive to the fruit in the previous fifteen years. This rendered possible the phenomenal crop of the season 1905–6.

In Corfu, owing to the great age and large size of the trees, the olives are allowed to ripen and fall to the ground and then gathered. In the Peloponnesus, on the other hand, the harvesting method usually employed is to beat the trees with long wooden poles, the severe shaking causing the olives to fall to the ground. It is calculated that the yield is only one-fifth to one-third of that when the olives are allowed to fall to the ground. The quality of the oil resulting from the former method is, however, somewhat superior.

The harvest periods in the Peloponnesus and in Corfu are also different. In the former the beating commences early in November and ends with the close of the year. In Corfu olives remain on the trees until fully ripened, making the harvest season much later. The better the season the longer the olives remain on the trees, and it is quite usual for all not to have fallen before May and even June. During a good season like the present the falling will become general about the month of May.

The prices brought by olives and olive oil this season are about 20 per cent higher than those of last year, a natural result of the larger supply. Olive oil is selling at from 80 to 95 francs ($15.44 to $18.34) for 220.5 pounds, or from 7¼ to 8½ cents per pound, according to quality.

SYRIA.

YIELD IN PALESTINE DOES NOT KEEP PACE WITH LOCAL DEMAND.

The following report on the decadence of the olive groves of the Jerusalem district and the present condition of the industry is furnished by Acting Consul Thomas R. Wallace:

The olive is one of the principal products of this region of Syria, and upon it the native people chiefly depend. Every village community has its olive grove, and in many places small groves are seen far from dwellings, the property of the villagers, who carefully watch and guard them during the picking season, but otherwise give them little, if any, attention.

The amount of land in cultivation in this part of Palestine is small as compared with the whole. The farmers live in villages, usually located where springs exist or water can be obtained from wells. The conditions forced upon them, both by law and custom, seem to have discouraged individual initiative, and, instead of advance and progress, stagnation exists, and all measures of improvement are neglected. The result is a constant decrease in the production of olives, old trees that die or those cut down being replaced in very small part and those that stand to-day date back for ages; indeed, the fruit is still called the "Roman olive," and I am assured that many of the groves have well-authenticated records of existence covering a period of more than a thousand years. A few new groves have been planted by Jewish colonies in recent years and a few young trees are seen around native villages, but these form a small part compared with those destroyed.

GROWTH AND PRODUCTION.

The olive tree is indigenous and constitutes the greatest number of trees growing in the mountain district, the thin layer of soil upon the bed rock precluding other trees, although some of the largest and most productive orchards in the district are located on the plains along the sea. The climate is an ideal one for their production and the trees are prolific bearers, when well cared for, and each year produce an abundant crop.

The greater part of the year's product is used by the natives as a food in different forms, the remainder being used for illumination and manufacturing purposes. The oil production in the district, of about 3,000 tons, is used locally in making soap, which is exported to Egypt and Anatolia. There is but little, if any, oil sent out of the country at the present time. Formerly a small quantity was exported, but the decreased production and increased consumption for manufacturing purposes use up all the excess.

The native or common variety is most in favor, although a few of the large or European are used for pickling, especially when prepared for sale, but the small fruit, which is the common kind, is preferred for pickling and for oil; it is claimed they are much richer in oil, more nutritious as food, and of finer flavor. The pickling season commences about October 1, and it is the custom in the villages to do all the pickling together, as the trees are in one grove, of which each family owns a portion, and by being on the ground at the same time stealing is prevented, and as each family picks its own fruit trouble is averted. The season covers considerable time, and as the degree of ripeness fixes the use to which the fruit will be put the harvest is not hurried, as it otherwise would be. The children and the women usually do the work of picking. The women when paid wages receive about 20 cents and the children about 16 cents per day.

YIELD OF OIL.

The farmers say that a fair average of oil per ton of fruit is one-fourth, but it varies much in different qualities of soil and the care given the trees. The crop upon light-colored soils yields about one-sixth in oil, while upon deep-red soils it often reaches one-third, but the average yield is estimated at one-fourth. Some exceptionally good olive trees produce as much as 240 pounds of fruit, which yield 60 to 80 pounds of oil.

Attention has been called to a small olive grove halfway to Bethlehem, which some years ago came into the hands of a Greek, who had the berries carefully picked, the soil enriched, and proper attention given to the trees, which doubled the yield the first year.

The price received for oil varies greatly both in different years and in different places and ranges from $116 to $140 per ton delivered in a market town or village. The waste material or pumice, which is left after the olives are pressed, is used for fuel. A few new mills have been introduced recently, but the machinery in general use for the extraction of the oil is the same as was used ages ago.

SPAIN.

RESOLUTIONS OF GROWERS TO IMPROVE TRADE CONDITIONS.

Consul-General Benjamin H. Ridgely, of Barcelona, advises that at a recent national convention of Spanish olive crushers certain steps were taken which will be read with interest by olive growers all over the world. He adds:

Spain is the second largest producer of olives in the world, and the industry is handled here with great interest and care. About 3,500,000 acres of land are planted in olive trees, from which, in a good average year, about 1,400,000 tons of olives are produced and about 69,000,000 gallons of oil. Thus the united action of the olive crushers of Spain must have considerable significance. At their convention referred to they passed resolutions in which the following measures were decided upon:

First, to obtain a modification of the existing tariff, so that the duty on oil seeds shall be in proportion to that on the oils obtained from such seeds.

Second, to require all seed oils to be denaturized on import into Spain, and upon leaving the factories when crushed in this country; peanut oil of Spanish manufacture alone being excepted, but not the peanut oil imported from Madagascar.

Third, prohibition and severe punishment of any adulteration of olive oil with seed oils, whether intended for domestic consumption or for export.

Fourth, reduction and unification of railroad freight rates.

Fifth, establishment of a maximum rate of freight for olive oil and olives by shipping companies.

Sixth, export bounties to be granted on olive oil.

Seventh, schools under the management of experts for teaching the proper way to prune olive trees, to be founded in all olive-growing districts.

Eighth, the necessity for an act to be passed obliging all growers to adopt the most approved means for combating and preventing the spread of diseases of the trees and for the enforcement of such a law.

Ninth, the exemption from taxation of new plantations of olives to be prolonged to thirty years.

Tenth, olive oil to be exempt from "octroi" dues on entry into the towns.

Eleventh, that a study be made of the existing diseases of the olive tree in infested districts, with a view to finding the most efficient remedy.

Twelfth, that a careful study be made to ascertain which varieties of the olive tree give the largest yield and the finest quality and which are best adapted to the different soil and climatic conditions of the various oil-growing districts.

Thirteenth, that a national exposition of oils, wines, cereals, and other products of Spanish agriculture should be held.

Fourteenth, that "elayotecnicas" stations be established in Argentina, Mexico, Uruguay, Chile, New York, and Japan.

Fifteenth, that some means be adopted for protecting the olive groves.

Sixteenth, that uniform weights and measures be used for olives and oil throughout the country; and finally, that for the purpose of furthering the interests of all olive growers and crushers a central agency be established at Madrid.

Considerable discussion was aroused over the question of adulteration; for, while some claimed that without such adulteration exportation would be impossible, others insisted that only their absolute purity would insure the sale of Spanish olive oils in foreign markets.

CHILE.

CLIMATE ADAPTED TO OLIVE GROWING—OPENING FOR AN OIL FACTORY.

Consul Alfred A. Winslow, reporting from Valparaiso, says that the olive is cultivated in Chile very successfully, the climate being exceptionally adapted to its growth. There are at present some fine olive orchards in Chile, and the local demand is almost entirely supplied by the home production, as the importation of olives for 1905 only amounted to $6,935 United States currency. That is not the situation as to olive oil, as this is all imported, the receipts in 1906 amounting to $646,285. This suggests a fine opening for an olive-oil factory in Chile. The local olive is said to be exceptionally rich and grows to a large size.

FRUIT TRADE.

GREECE.

INCREASED SHIPMENTS OF CURRANTS—EXPORTS TO UNITED STATES.

Vice-Consul Haworth J. Woodley, of Patras, has prepared the following review of the Greek currant crop and trade:

The outstanding feature of the currant season of 1907 has been the large volume of business transacted during the latter half of August and practically throughout the entire months of September and October. That buyers were induced to respond to such an unusual extent may be attributed to the very moderate level of the opening quotations and a market showing almost daily increasing firmness owing to the reduced crop estimates during the critical period of cutting and gathering the currants.

Heavy rains in most of the producing districts not only reduced the weight of the crop, but seriously deteriorated the quality of the various growths, provincial grades in particular suffering most damage.

Fortunately most of the fruit so affected was ultimately secured in merchantable condition, but the standard of quality was necessarily lowered and has not been entirely satisfactory. The finer grades suffered somewhat less severely and Zante fruit escaped the ruin altogether, being of excellent quality and condition. Shippers have, however, done their utmost under the unfavorable circumstances and, on the whole, few complaints have been pressed to the limit of arbitration.

HEAVY FORWARD BUYING.

Owing to the small stocks carried over into the new season, a ready response was accorded to the opening quotations, which started on a level considerably lower than prices at which shipments could eventually be effected.

The late harvest and consequent limited supplies of currants available at the commencement of the season, together with the unusually heavy requirements for September and October shipments, inflated spot prices, and deliveries generally were only effected at heavy losses to local shippers, who, nevertheless in most cases, fulfilled their engagements. As the damage to the crop became more generally known, prices continued their upward course until the market reached its highest point early in October, the quotations for provincial currants then being about $5 per hundredweight, cost and freight, New York.

From this period prices receded somewhat, though the difference was mainly due to the reduced export tax, which, by arrangement, was made payable in cash at the fixed rate of 115 drachmas per 1,000 Venetian pounds ($20 per 1,050 pounds). This was done, however, only after 66,000 tons had already been exported. Owing to the active demand and heavy shipments, this quantity was reached earlier than had originally been anticipated, while a rise in the rate of exchange also accentuated the reduction in forward quotations, so that these two factors practically accounted for the reduced quotations.

AVAILABLE SUPPLIES INSUFFICIENT.

The crop is officially estimated at 141,000 tons, as against 132,000 tons last season, leaving about 118,000 tons available for export after the full retention duty in kind is deducted. In face of the increased consumption and the fact that a large proportion of the fruit remaining in Greece is of poor quality, for which reason its export is prohibited by the Greek Government, the available supplies of merchantable fruit are generally considered to be inadequate to meet the world demand.

The increased exports this season have been general to all countries consuming currants, and the total shipments for 1907 are 766 tons in excess of those for the same period of 1906. For the season 1907-8 to December 31, the exports amounted to 113,466 tons gross, against 97,700 tons gross for the previous year.

The favorable statistical position fully warrants the continued firmness of holders, and a comparison of the stock at present available in Greece with the quantity exported during the remainder of the season of the previous year reveals a shortage of about 8,000 tons to meet the estimated universal requirements. The officially estimated crop of 1907 is 141,000 net tons, of which there were exported to December 31, 1907, 98,000, and absorbed by retention duty 23,000, thus leaving stocks remaining in Greece at 20,000 net tons.

A feature of this season has been the heavy shipments to the United States, the 15,194 gross tons going forward up to December 31 being 4,184 tons in excess of the previous season.

SPAIN.

MARKET DEPRESSION IN THE VALENCIA ORANGE INDUSTRY.

Writing from Valencia, January 24, Consul Charles S. Winans, makes the following report on the present difficulties experienced by the Spanish orange-growing industry:

Agricultural depression, especially in fruit growing, continues to increase in this district. The crisis first developed in the wine trade, in which it reached such an acute stage recently that some important wine growers, unable to obtain even the very low price of 6 cents a gallon for their product, rolled their wine casks on to the public highways that passers-by might drink gratuitously.

Now orange growers and exporters have been overtaken by disaster so crushing and complete that foreign markets on which they depend almost exclusively for the consumption of the Valencia crop have all collapsed. Production has outgrown the requirements of available markets abroad, while home markets, in the interior and northwest coast of Spain, are at present inaccessible to Valencia fruit growers, owing to deficient transportation facilities and high freight rates both by sea and land. In the first two months of the present season—November and December—1,600,000 cases of oranges were exported, or about 240,000,000 pounds, and three-fourths of the crop still remains on the trees.

Farmers have been forced to sell their oranges to packers as low as 10 cents an arroba of 25 pounds, and exporters have been receiving average prices of $1.25 per case of 150 pounds of fruit, which, after deducting packing expenses, freight. and sale charges, leaves practically nothing for the oranges.

CONTRIBUTING CAUSES OF THE REVERSE.

Among the causes assigned for the threatened ruin of the Valencia orange trade, with exports valued at $12,000,000, appear to be lack of intelligent organization of growers and packers for the distribution of exports in proportion to the consuming capacity of markets, excessive production, and deterioration of quality of fruit, and dependence of farmers and merchants on foreign capital.

British fruit brokers and merchants finance the greater part of the Valencia fruit trade, advancing one-half to two-thirds the prospective value of consignments, their commission profits being increased by excessive shipments. Oranges this season colored eight days earlier than usual, the shipments in the first two weeks of November exceeding by 260,000 cases the totals exported up to the same date last season. At that early date British and German markets, still well supplied with apples, Almeria grapes, and other autumn fruits, were not prepared for such heavy imports of oranges, and have not yet recovered from the collapse at the very opening of the season.

Moreover, Valencia orange growers, in their anxiety in recent years to increase production by intensive cultivation and high fertilization have succeeded to some extent, at the expense of the quality, flavor, and keeping condition of the fruit, which has acquired a coarser skin and texture and more acidity, while Jamacia and Jaffa oranges, now competing with Valencias on British markets, have steadily gained in favor. A box of Jaffa oranges containing 144 to 152 oranges, or about one-third the number in a Valencia case, realizes at present on British markets one shilling (24 cents) more than the latter.

CHILE.

STEADILY INCREASING GRAPE INDUSTRY—RED WINE MAINLY PRODUCED.

Consul Alfred A. Winslow, of Valparaiso, reports that much attention is given the cultivation of grapes in Chile, and the manufacture of wine therefrom, as will be seen by the following statistics:

The industry is growing rapidly and promises well. The climate and soil are most excellent for the production of some of the best varieties of grapes. In 1906 there were 57,665 hectares, or 142,493 acres, under cultivation, against 51,539 hectares, or 127,354 acres, for

1904. In 1906 there were 17,260 hectares under cultivation on irrigated lands. The grapes grown on the irrigated lands were the best. The production of wine for the harvest of 1906 amounted to 157,604,656 liters (liter=1.0567 quarts), of which the greater proportion was red wine. The production for 1907 exceeded that of 1906 very materially, but the exact figures can not yet be given.

During 1906 wine to the value of $203,430 United States gold was imported, of which the United States furnished less than one-half of 1 per cent. During the same time Chile exported wine to the value of $54,740.

AUSTRALIA.

PROTECTION OF BANANAS INTENDED FOR EXPORT.

Consular Agent Asbury Caldwell, of Brisbane, reports that a regulation has been passed by the Queensland department of agriculture, providing that all bananas intended for export to Victoria shall be covered with fine cloth netting for three weeks prior to plucking the bunch. This has been found, by experiment, to be an effective protection against the Queensland fly, which when introduced works serious ravages in all orchards. This regulation harmonizes with the Victorian state regulation, which forbids importation of bananas from the Tropics, unless they have been so protected.

CEREALS IN LATIN AMERICA.

NICARAGUA.

PRIMITIVE MANNER OF FOOD PREPARATION.

In reply to inquiries from a Western company, Consul Frederick M. Ryder, of San Juan del Norte, furnishes the following information relative to the growth and consumption of cereals in Nicaragua:

Corn and rice are the only food cereals grown in this Republic, and these are not cultivated in sufficient quantity to supply the home market. All the corn and most of the rice consumed on the east coast of Nicaragua is imported from the United States. Oatmeal is used to some extent in this section by the foreign population. Grain is not grown in this locality, for the reason that neither soil nor climate are favorable. The soil is generally low and swampy, while the heavy rainfall would wash the seeds out of the ground, and the swarms of large ants would carry off the grain. Much of the corn in the interior, as well as a considerable quantity in this locality, is used as foodstuff, and for this purpose the home product is preferred, as much of it is consumed before it becomes thoroughly hardened.

PREPARATION OF THE TORTILLAS.

The favorite preparation of the corn is similar to ordinary corn fritters, and is known as "tortillas." The grain is boiled whole, with lime and wood ashes, in several waters, until the husks become separated, when it is drained and allowed to dry. When the kernels are freed from the husks, they are rubbed and thoroughly dried over a fire until slightly parched, and then are ground on the native "rubbing stone." This mode of grinding, which is not confined to cereals, is crude and primitive, and its use demonstrates the unwillingness of the people to adopt modern methods, even while they acknowledge their simplicity and labor-saving advantages. These rubbing stones, which vary in size according to the requirements of the family, are flat stones, with concave surfaces, standing on four small legs of stone. A rolling-pin, also of stone, is used for grinding, the process being much the same as the rolling of dough for pastry. The meal is not finely ground, but resembles coarse oatmeal, and is usually rolled into the shape of a ball. When required for use, pieces are broken off, and moistened slightly, so as to be easily molded in the hands into the form of a pancake, only a little thicker. The baking is done in an earthen dish over an open fire. The people do not seem to be satisfied with any repast, however elaborate, which does not include this favorite dish.

INTRODUCTION OF AMERICAN CEREALS.

The Nicaraguans are loath to depart from long-established customs, particularly in the matter of foods and their preparation. Imported oatmeal and corn meal are used to some extent for porridge and for thickening soups, but the many varieties of American cereal or breakfast foods are practically unknown.

American manufacturers who decide to test this market should send the cereals in hermetically sealed tins or boxes of from 3 to 5 pounds each, carefully packed in light but durable cases. The only successful method of introducing these goods would be to send a reliable Spanish-speaking representative to demonstrate how partially cooked cereals containing the maximum of nutrition may be prepared with the minimum expenditure of cost, time, and labor.

After this preliminary work the representative should select the best and most reliable merchant in the locality as a distributing agent. Without this introductory demonstration, however, it is useless to name an agent, especially by correspondence. The resident agent should not be permitted to carry an extensive stock of these goods, as they soon become lumpy and musty in this climate, on account of its excessive humidity.

PARAGUAY.

FOODS ARE SIMPLE AND CHEAP—NO MARKET FOR ANIMAL FEED.

Consul Edward J. Norton writes from Asuncion that there is very little demand for cereals or breakfast foods in Paraguay, and that this is confined to the foreign element and a few of the native families. The report continues:

The majority of the Paraguayan people are poor, and their food is necessarily simple and cheap. The staple crop of the country is corn, and this is one of the principal materials used for food. The leading variety here is a white grain, which is eaten roasted on the ear, baked in a frying pan, cut up into the "puchero," or native boiled dish, or ground into meal, which is mixed with lard and cheese and baked into a sort of bread called "chipá de maiz." This bread is consumed in large quantities in all sections of the Republic. Another variety of corn in general use is a hard, yellow grain, which is usually boiled or thoroughly soaked and eaten with milk or sugar. This is also used in the production of a native drink. Paraguay exports corn at irregular intervals when there is a surplus stock on hand; but as a rule these shipments are small.

Wheat and oats are not grown in this country. Wheat is imported from the Argentine Republic and ground at Asunción. Bread of wheat flour is becoming more and more an article of daily consumption in the larger cities, but in the smaller towns and in the country districts the use of corn flour is general.

Manioc, or mandioca, is, next to corn, the staple food of the people, and is called "Paraguayan bread." It is eaten, either boiled or baked, at every meal by all classes. The starch or flour, with the addition of eggs and cheese, is made into a bread called "chipá de mandioca." Although Paraguay has lands adapted to rice growing, little attention is paid to this crop, and the bulk of the rice consumed is imported.

All of the larger groceries carry stocks of the foreign cereal foods sufficient to supply all demands. Any efforts to increase sales would probably meet with disappointment. American oats in 2-pound tins retail for 4.80 pesos, or 40 cents gold per tin; 1-pound cartons sell for about 22 cents gold. German rolled oats in 1-pound tins sell for 30 cents gold and Scotch oatmeal in 2-pound tins for 50 cents gold. [A list of dealers which handle such goods is on file in the Bureau of Manufactures.]

MEXICO.

SHORT WHEAT CROP NECESSITATES IMPORTATIONS.

Writing from Saltillo, Consul Thomas W. Voetter says that on account of the poor Mexican wheat crop harvested in 1907 about all the wheat raised has now been ground and the mills will shut down, to which he adds:

The supply of flour on hand is not sufficient to last until the new crop is harvested, and millers here are desirous that the Federal Government should reduce or take off completely the import duties on wheat, but so far as known, no concerted effort has been made to secure this action. One of the mills in Saltillo has for several months past been grinding wheat from the Argentine Republic, which was imported at the period when the Government last reduced the import duties on wheat.

MEXICAN SUGAR INDUSTRY.

GREAT PROGRESS SHOWN THROUGH INTRODUCTION OF MODERN METHODS.

Special Agent Arthur B. Butman makes the following report on the production of sugar in Mexico, and also shows the trade in this commodity and its products between the Republic and the United States:

Sugar is produced in numerous States throughout the Mexican Republic, Morelos having the largest production. The industry, which was introduced by the Spaniards soon after the Conquest, is by no means confined to the planter of wealth and vast acreage, nor is it carried on according to up-to-date methods. The native plants his small area of rented land in the most primitive manner, sometimes without plowing the ground—merely clearing and burning—and by means of wooden rolls and copper kettles produces the various sorts of brown sugar known as panela, panocha, and piloncillo.

Great progress has been shown in the industry in recent years. The amount of foreign capital invested is constantly increasing, advanced methods of planting and harvesting are being introduced, and modern mills and refineries erected, while the old plantations are also being improved, and new machinery substituted for that formerly used.

For the purpose of protecting and advancing this important industry a presidential decree went into effect as a law at midnight February 15, 1908, raising the duty on common sugar, candy sugar, and refined sugar of all kinds, to 5 cents for each kilo (2.2 pounds), gross weight. The duty formerly prevailing was 2½ cents a kilo.

UP-TO-DATE MILLS—CULTIVATION OF SUGAR CANE.

The most important sugar mill in Morelos is at Teuxtepango, which handles the cane for the surrounding country, as well as that grown on the owner's hacienda, or plantation. About 3,750 tons are estimated as likely to be turned out during the present season.

On February 1, the plant of The Mexican National Sugar Refining Company was put into operation at El Portero, in the State of Vera Cruz, which will have a daily capacity of 125,000 pounds of sugar. The company, which is composed of American capitalists, has constructed a modern plant, equipped with the most up-to-date sugar-making machinery, from the United States. The American standard qualities of sugar will be turned out, from the pure white crystals to the brown sugar known in the United States as "third." Granulated sugar of the finest white quality will also be produced. The cane mill connected with the plant will have a capacity of 800 tons of cane a day, which will be supplied from adjacent plantations and from the 2,000-acre hacienda owned by the company, surrounding the central. A distillery will be operated in connection with the plant, having a capacity of 3,000 gallons of alcohol a day.

A great deal of land in Mexico is suited to cane growing, and it is doubtless due to the primitive methods of cultivation and manufacture employed, as well as the former difficulties in the way of transportation, that the Republic has not entered more largely into the sugar export trade. Great fertility of soil abounds in the Gulf States, and the rainfall is ample, being estimated as about 100 inches annually. In the inland State of Morelos, however, where the largest quantity of sugar is produced, irrigation is necessary, as is also true of cane lands on the Pacific coast. Lands on the elevated levels will yield less than the lowlands. I am told that from 25 to 45 tons of cane an acre is an average yield on the elevated plantations and from 40 to 60 tons in the tropical lands. Replanting is necessary more often in the highlands than in the lowlands, where every seven or eight years is sufficient. The cane grows to a large size, especially in the Gulf States region, and crushed at full maturity yields a density of from 9° to 11½° baumé.

REPUBLIC'S PRODUCTION OF SUGAR.

For the fiscal year 1900, the production of sugar in Mexico was estimated at 75,000 tons, while the production for 1906 reached 107,500 tons. The production for the present season will probably yield, according to the present estimates, about the same quantity. A lack of rainfall in some sections prevented what had been previously estimated as a record cane crop.

The following table shows the production, by States, of sugar and molasses, in metric tons, of 2,204.6 pounds, for the fiscal year 1906:

State.	Molasses.	Sugar.	State.	Molasses.	Sugar.
	Metric tons.	*Metric ons.*		*Metric tons.*	*Metric tons.*
Campeche	654	542	Puebla	6,037	6,549
Chiapas	622	372	San Luis Potosi	3,594	1,925
Colima	1,830	1,740	Sinaloa	3,860	8,540
Guerrero	2,652	2,096	Tabasco	1,065	1,967
Jalisco	6,448	6,196	Tamaulipas	1,529	1,694
Mexico (Federal District)	747	158	Tepic	2,000	2,500
Michoacan	13,675	6,650	Vera Cruz	9,312	16,297
Morelos	21,257	35,662	Yucatan	2,130	1,241
Nuevo Leon	350	914			
Oaxaca	2,134	1,417	Total	79,396	96,469

EXPORTS AND IMPORTS OF SUGAR AND PRODUCTS.

The exports of sugar from Mexico have been for the past four fiscal years as follows:

Year.	Sugar.	Coarse sugar.	Year.	Sugar.	Coarse sugar.
	Metric tons.	*Metric tons.*		*Metric tons.*	*Metric tons.*
1903	8,003	255	1905	38,701	569
1904	16,313	177	1906	5,072	122

The falling off in exports for 1906, which represented in value about $2,500,000 United States currency, was due to the sugar crisis affecting the American and European markets. The effects of this abnormal decline were modified in a degree to the Mexican planter by the increased domestic demand sufficient to maintain lucrative prices for his product.

The amount and value of Mexico's sugar export trade with the United States for the fiscal years 1902–1907 is shown as follows:

Year.	Pounds.	Value.	Year.	Pounds.	Value.
Not above No. 16 Dutch standard in color:			Above No. 16 Dutch standard in color:		
1902	336,915	$9,340	1902	1,453	$68
1903	2,195,892	98,572	1903	218,481	9,867
1904	867,547	17,346	1904	382,705	18,652
1905	19,376,601	646,573	1905	4,672,888	286,711
1906	2,196,269	50,411	1906	1,344,715	71,515
1907	6,340,156	194,893	1907	13,272	536

During the same period the United States exported to Mexico sugar, molasses, and confectionery to the following values:

Articles.	1902.	1903.	1904.	1905.	1906.	1907.
Sugar	$63,970	$25,722	$26,150	$28,538	$228,759	$236,062
Molasses and sirup	521	933	960	1,258	1,999	4,944
Confectionery	15,731	17,883	19,086	22,420	21,343	20,927
Total	80,222	44,538	46,196	52,216	252,101	261,933

[From preliminary data compiled by the Bureau of Statistics from the monthly returns, the total imports into Mexico of sugar and products during the fiscal year ended June 30, 1907, were shown to be as follows: Sugar, raw and refined, $219,854; molasses, sirup, and preparations of sugar used in making wines and liquors, $14,726;

confectionery and chocolate, $74,095; total, $308,675. These figures, while derived from slightly different classifications of the articles, indicate that the bulk of the trade is held by the United States.—B. M.]

GERMAN POTATO PRODUCTS.

FLAKES FOR CATTLE FOOD.

ECONOMICAL UTILIZATION OF SURPLUS CROP OF EMPIRE.

Consul John E. Kehl, in the following report from Stettin, gives an account of the German success in making potato flakes for stock-feeding from the superabundant tuber yields.

Germany's annual potato crop for the past seven years has averaged 43,000,000 tons. The supply was, and still is, considerably in excess of both household and industrial demand. New channels had to be found to profitably use up the surplus and, if possible, to save a portion of the 10 per cent of the total crop which annually goes to waste through lack of proper winter storage and decay. During 1901 the German Association of Alcohol Manufacturers, the largest industrial consumers of potatoes, took this task upon themselves and organized a branch to their association to be known as the Verein Deutscher Kartoffel-Trockner (German Potato Dryers' Association), to be devoted to the question of using dried potatoes in various forms for stock feed.

To increase general interest in this question, the alcohol association succeeded in raising from interested sources, including two subscriptions from the Government, the sum of 30,000 marks ($7,140) to be distributed as prizes for the best methods of reducing potatoes to a durable stock feed. The conditions were that the total cost of drying 100 pounds of potatoes should not exceed 5 cents, including fuel, labor, interest, and depreciation; the last two items on a basis of 100 working days per year, and that large plants should have a minimum capacity of 10 tons of raw potatoes in 12 hours; small plants 2½ tons in the same time.

RESULT OF CONTEST—LEADING SYSTEMS.

Some 40 entries were made, of which 22 failed to answer the requirements. It was noted that the systems using fuel gas for drying purposes were operated at less expense that those using steam. The present cost of producing 100 pounds of potato flake is from 5 to 10 cents with gas, and from 12 to 20 cents with steam. These figures could not be applied to American conditions on account of wages, which would be from 200 to 300 per cent more than are paid here.

The so-called "Paucksch" system for producing potato flakes is, in brief, as follows: The potatoes are washed, then thoroughly steamed, after which they are passed between two rollers heated to 140° Cel. = 284° F.; the thoroughly dried crushed substance in the shape of small flakes is then removed from the rollers by stationary knife blades and passed through a cooling funnel, after which it is ready for use or storing.

The "Heiler" system for making potato flour consists of washing the potatoes, then after crushing them into a cold pulp, the matter is passed into a gas or steam-heated drum for drying purposes; when thoroughly dry it is spread for cooling and then ground into flour.

There are many other systems, but the brief descriptions given will suffice to show the fundamental principles for manufacturing potato flake and potato flour.

VALUE AS STOCK FOOD.

It is now believed that the surplus supply of potatoes can be worked up into a nourishing and profitable animal food product, with an unlimited disposing field and, according to optimistic opinions, will make the German farmer independent of foreign feeds, particularly American corn.

The present demand for potato flake will exhaust the entire supply by April. Within the next two years an attempt will be made to export this article to the United States. At present there are about 130 potato-drying plants in operation throughout Germany. Potato flake sells at $3 to $3.50 per 100 pounds; potato flour and other forms of dried potatoes at $1.50 to $2.50 per 100 pounds. It is estimated that 3½ hundredweight of raw potatoes are required for 1 hundredweight of flake, that the steam-dried flake is softer and whiter than the gas-dried article.

Potato flake is said to contain 80 per cent carbonic hydride with 62 per cent amylum, and is readily eaten and easily digested by all animals, including ruminants. Two pounds of potato flake mixed with 5 quarts of milk and 1 pound of linseed cake is said to make an excellent feed for calves; for draft horses, 8 pounds of flake and 4 pounds of oats mixed in addition to hay; for fattening hogs, 3½ pounds of flake and 4 pounds of ground barley mixed with water or sour milk is used; milch cows are given 2 pounds of flake and 2 pounds of bran mixed in addition to other feeds.

A sample of potato flake made by the Paucksch system is forwarded herewith [on exhibition at the Bureau of Manufactures].

ALCOHOL MANUFACTURE.

EXCELLENT YIELD OF TUBERS—PRODUCTION OF SPIRITS.

Consul-General Richard Guenther, of Frankfort, states that, according to statistical findings, the potato crop of Germany in 1907 amounted to 45,538,299 metric tons (metric ton=2,204.6 pounds), of which a large percentage was converted into alcohol. Further particulars follow:

Last year's crop was one of the largest and best since 1899, only 6.4 per cent of it having been diseased. The alcohol production in Germany is controlled by a trust which fixes production and price. The trust limited the output of alcohol in 1907 to 82 per cent of the total capacity of the stills, resulting in the production of 3,836,614 hectoliters (hectoliter=26.4 gallons), against 4,378,464 hectoliters manufactured in the preceding year.

Of the 1907 production 105,000,000 liters (liter=0.264 gallon) were completely denatured, an increase of 11,000,000 liters over the year before. For drinking purposes 2,439,720 hectoliters were used, an increase of about 174,000 over 1906; 215,619 hectoliters of alcohol were exported, of which Russia and Italy received considerable quantities.

The price for alcohol was high, having been considerably advanced at different times. German alcohol is principally made from potatoes. As a beverage it is sold very cheap. At the popular dramshops a drink (small wine glass) can be had for 6 pfennigs (1½ cents).

Among statesmen and economists in Germany there are many who advocate the monopolization of the production and sale of alcohol by the Federal Government of the Empire, on the plea that the large profits from this industrial branch would revert to the state and could also benefit the community by making low prices when the article is used for industrial purposes and by putting a high price on drinkable alcohol so as to check drunkenness and diminish crime, disease, and distress, of which alcohol is so largely the cause.

TEA INDUSTRY.

BRITISH INDIA.

DECREASED CROP AND DECREASED EXPORTS LAST YEAR.

Consul-General William H. Michael advises that the Calcutta tea market opened January 7, after the holidays, and 28,500 packages were offered for sale. He gives further particulars as follows:

On the whole, the quality must be considered rather disappointing. The majority of teas barely maintain the average standard. There is no doubt that even in the Dooars, which on the whole has done well, there has been less of the good autumn teas made in 1907 than in the previous year. A few Darjeelings are included in the present sale, but the hill district teas are practically finished. Assam teas are a fair lot, but show nothing very distinguished in style or cup.

Indian exports now show plainly the effects of a reduced tea crop. The total export figures for 12 month periods ending January 9, 1908, were as follows:

Whither exported.	Up to January 9—		Whither exported.	Up to January 9—	
	1907.	1908.		1907.	1908.
	Pounds.	*Pounds.*		*Pounds.*	*Pounds.*
United Kingdom	150,750,000	147,250,000	Bombay	4,000,000	4,858,000
United States	12,461,000	3,875,000	Other places	5,440,000	3,485,000
Russia	17,000,000	25,500,000			
Australasia	8,849,000	10,282,000	Total	198,500,000	195,250,000

The variance in the statistics of tea exports to the United States arises through the fact that so much destined for America is transshipped via Great Britain or China. Tea experts place the amount really going to the United States in 1906 as 10,784,00 pounds, and 9,684,00 pounds in 1907.

Ceylon made a considerable spurt in its tea exports during the closing months of 1907. The total exports from the island for that year amounted to about 112,000,000 pounds, against 107,000,000 pounds in 1906, an increase of 5,000,000 pounds. This was a very heavy increase, yet it was not sufficient to counterbalance India's deficit, combined with increased demand. A noteworthy feature of the trade of Ceylon in 1907 was that its exports to Russia, although greater than in 1906, fell far behind the Indian tea exports to that Empire.

BRIGHT PROSPECTS FOR INDIAN AND CEYLON TEA.

According to a local review of the Indian and Ceylon tea markets for 1907 the prospect is most encouraging. It says that the average price of tea was the highest during the year since 1899. This statement, however, does not necessarily imply good results to all producers, because one of the chief features of the past twelve months was the high price ruling for common grades. Taking the industry as a whole, there seems every probability that the depression which has ruled for many years has at length passed away, for production has shown little increase in the year just ending, while consumption, both at home and abroad, has materially increased, and very little additional land is being placed under tea cultivation.

One of the most remarkable features of the last two years has been the great expansion in the use of Indian and Ceylon teas abroad. This rose from 129,884,250 pounds in 1905 to 162,461,824 pounds in 1906 and about 171,500,000 pounds in 1907. When it is remembered that in 1890 the total consumption of Indian and Ceylon tea abroad was only 14,001,132 pounds, the progress made is really startling. There is no doubt that the expansion in these markets has saved the industry from very serious losses, and largely contributed to the more satisfactory position at the present time.

RUSSIA.

IMPORTS, CONSUMPTION, AND CULTIVATION IN THE EMPIRE.

Consul William W. Masterson, of Batum, in transmitting the following information, reports that the Russians are said to be the greatest consumers of tea of any people in Europe:

About one-half the tea imported into this district is received by sea at the ports of Batum and Novorossisk, and is entered through the custom-houses of Tiflis, Baku, Askhabad, Bokhara, Samarkand, Kokand, etc., but a great portion of the tea reported from the custom-houses at Askhabad, Bokhara, and Samarkand is imported direct from China by caravan and by the Siberian Railroad, and it is impossible to tell just how much comes by sea and how much overland.

Of the 37,759 tons of tea imported into the district during the past seven years, over 32,000 tons were green tea, the most of which is reported in the three Central Asian custom-houses of Askhabad, Bokhara, and Samarkand. The brick tea received at Novorossisk and Batum (2,226 tons and 6,403 tons, respectively, during the past seven years) is of poor and cheap quality, and is imported in this form.

The tea that comes into this district by sea is brought by the steamers of the Russian Volunteer Fleet, a line that runs from Vladivostock to Odessa, via the Suez Canal, and the item of tea is at present the most valuable part of the cargoes of the ships coming west. It is estimated that about 75 per cent of the tea imported into this district comes direct from China, and practically the remainder from India.

CONSUMPTION AND CULTIVATION.

The consumption of tea is not confined to any particular class, but from the prince to the peasant all the people are tea drinkers, and the use of coffee and cocoa is not in any manner so universal, being, in fact, almost unknown outside the cities and larger towns.

Owing to the almost semitropical climate that prevails in this part of the Black Sea region, frequent attempts have been made to cultivate tea in paying quantities, and the Russian Government at its experimental station located here, under the title of the Imperial Domain's Estate, has for several years past cultivated tea in considerable quantities, the growth and the preparation of the tea being under the supervision of Chinese brought here for that purpose.

A large firm of Moscow merchants also have a tea plantation located here, that for several years did a considerable business in raising and selling tea, but during the past year, owing to financial difficulties and the unsettled condition of the country, this plantation has not been worked to any extent. In addition to these two estates a number of owners of lands along the Black Sea coast, immediately to the east of Batum, are raising tea in small quantities, which is sold in the local market at a reasonable figure, and the prediction is frequently expressed that when conditions permit and the small landowners become educated in the proper method of its raising and curing, a considerable portion of the tea consumed locally will be of home production.

A trial shipment of 40 chests, containing some 2,000 pounds of Batum tea, was sent to the United States some little time ago, but no further shipments have been made.

DANISH MARKETING METHODS.

FARMERS' EGG EXPORT COMPANY—FRUIT MEN PROMOTE HORTICULTURE.

The principal reason why the export of agricultural and other farm and garden products from Denmark has reached the present dimensions, states a Canadian trade commissioner, lies in the forming of cooperative export associations, whereby quality and packing, etc., become uniform and reliable. The commissioner also says in his report to Ottawa:

Besides the dairy and creamery associations there also exist such cooperative associations for egg and fruit producers. The Danish Farmers' Cooperative Egg Export Association, founded in 1895, now counts about 40,000 members and has its own paper. The object of the association is to work up the best possible market in foreign countries for Danish eggs, by guaranteeing the buyers that the eggs sold under the mark of the association are strictly fresh and clean. It has packeries in the principal cities. Every week the association sends out a list of prices, which then is in force from Thursday morning to the next Wednesday evening. The sales of the association amount to about $1,125,000 per year. [Great Britain alone imported from Denmark in 1907 3,800,366 great hundreds valued at $8,634,720. This was an average of 22.7 cents per dozen, against an average rate of 21.1 cents the year previous, and 20.6 cents in 1905.—B. of M.]

The Danish Fruit Producers' Association, founded in 1888, has now about 7,000 members, and like the egg exporters, also have their own paper. The association's work consists in arranging expositions and discourses and also by sending out traveling teachers throughout the country. Further, it assists the members in obtaining the most suitable young trees and plants, as well as in the most profitable sale of their products. The sales of the association now amount to about 1,500,000 pounds of fruit per year.

TURKISH BARLEY SHORTAGE.

EXPORT PROHIBITED AT SMYRNA—OPPORTUNITY FOR SALES.

Consul Ernest L. Harris, writing under date of January 8, advises that the embargo recently placed by the Turkish Government upon the export of barley from the port of Smyrna is still in force, to which he adds:

One of the largest shipping firms in this city, as well as some minor ones, are having considerable trouble in attempting to carry out orders placed for their customers before this prohibition went into effect. A period of six weeks was given them to meet their engagements, but they state that this limit has not been sufficient. There is a great shortage this season all over the country, and there is as great an opportunity for the sale of barley in these parts as there is for wheat.

It must be understood, however, by American dealers in cereals that the present great demand for foreign grain in Asia Minor is but a temporary one. Asia Minor is naturally a grain-producing country, and it is only when it is visited by a famine, as at present, that the prices of all foodstuffs rise rapidly, and an artificial demand is thereby created for foreign products. In view of this, it may be safely predicted, in the natural order of things at least, that the present market for foreign cereals will last about another six months.

Barley is one of the most important cereals in Asia Minor. This is not only true to-day, but it has been so as far back as the history of this country may be traced. In districts where rice is not to be obtained it is even used as a substitute for the natural Turkish dish of "pilaf." The neighborhood of Amasia and the plains of Sivas are celebrated regions for the production of barley. More than 50,000 tons annually are exported from the port of Samsun.

FRENCH SEA FOODS.

MARENNES OYSTERS—APPEARANCE OF AMERICAN FISH.

Consul George H. Jackson, of La Rochelle, sends the following information concerning oysters and fish on the French coast:

The Marennes oyster is considered the most popular in France. The oyster parks are laid out in the space between the island of Oleron, the island of Aix, and the mainland. Each ebb tide permits the waters of the Seudre to flow over the beds. The bivalves are brought to this locality in large numbers from the breeding beds at Archeson. Here they are deposited in the mud to fatten and to take on the peculiar coppery tint and taste, which makes the green oyster of Marennes popular in France. According to the statistics of 1907, shipments of oysters from one of the two railway stations gave a total of 8,220 tons, which necessitated the use of 620 freight cars. The increase over 1906 was over 150 tons.

A number of fishes hitherto unknown in these waters, but well known on the Atlantic coast of the United States, have recently appeared, among the most numerous being the sheepshead and the bluefish. The appearance of this new sea food has caused considerable interest in the fishing industry. Up to the present time, however, I have only seen fish that are large and strong. The presence of shad is also greatly appreciated, but is due directly to the fish culture in the streams emptying into the Bay of Biscay. Shad bred in these waters apparently differ slightly in form and color from the American variety.

ENGLISH HOP YIELD.

DISAPPOINTING CROP RESULTS IN THE COUNTY OF KENT.

Consular Agent F. W. Prescott, of Dover, reports that, although the yield of hops last year in the English county of Kent was somewhat better than in 1906, many gardens proved an entire failure, and were not picked. The consular agent adds:

The prices were also disappointing, and following upon the recent convention of hop growers held at the agricultural college at Wye, an important debate took place recently at the Associated Chamber of Agriculture, when the delegates from Kent and Sussex advocated an import duty of 40 shillings per hundredweight ($9.73 per 112 pounds) on all foreign hops.

In support of this proposal it was pointed out that in 1878 there were 71,000 acres under hop cultivation in this country, which has been reduced to 44,938, and during the past year 202,304 hundredweight of hops were imported, of which America sent 126,122 hundredweight. The resolution for an import duty was supported by other hop-growing districts, but did not find favor with the majority of those present at the meeting and in the end it was withdrawn.

CHILEAN MEAT SUPPLY.

BEEF STOCK SCARCE—DUTY REMOVED ON ARGENTINE ANIMALS.

Consul Alfred A. Winslow, of Valparaiso, reports that the conditions in Chile have been such that the cattlemen of that country have not been able to furnish beef cattle sufficient to supply the demand. He adds:

In consequence the price of meat has been exorbitant for this part of the world. In Valparaiso the best cuts have been selling for 18 to 20 cents United States currency per pound, and hard to get at that. This was the result of two very dry seasons, when cattle died by the tens of thousands for want of food. Pastures in many cases failed entirely, and as no reserve provision, in general, is made to feed stock, the cattle were left to die. The most of those that survived will be of little value for some time to come.

To meet this emergency the Government of Chile has suspended the duty on cattle from the Argentine Republic for a period of two years from December 16, 1907.

TRANSPORTATION.

WORLD'S RAILWAY SYSTEMS.

BOLIVIA.

MORE MATERIAL WANTED—THE MONEY PROVIDED—PROJECTED ROADS.

Special Agent Charles M. Pepper, in a recent report from La Paz on the railroad situation in Bolivia, says that the money has been provided to carry on the work already undertaken, and that a market for considerable railway material may be found in that country, where Americans engaged in the railway business are held in high regard. Mr. Pepper writes:

Purchases of railway material for Bolivia have not ceased, nor are they likely to cease. The conditions which obtain in other parts of the world are, of course, reflected in this section of South America, and since Bolivia's chief products for export are tin, silver, and copper the fall in the price of those minerals affects both general business and the revenues of the Government. But, fortunately for the country, the funds for railway construction are not dependent on current resources. The Bolivian Government is now reaping the benefit of its action in dealing with responsible financial interests in the United States, and American manufacturers of rails and material should have the advantage of a continuing market.

The $12,000,000 of the Government, to which the Speyer-National City Bank syndicate contracted to add $15,000,000, making a total fund of $27,000,000, will all be spent in building railroad lines, as originally agreed upon. The present situation, concerning which misleading reports have been published, is due to the certainty that $27,000,000 will not build as many miles of railway as was anticipated, and various plans are under discussion for relocating some of the proposed lines and satisfying the aspirations of various districts for railway communication.

FAIR PROGRESS IN RAILWAY WORK.

The actual condition to-day is that work is progressing with reasonable rapidity on the line between Viacha and Oruro. Viacha is on the existing railway, 20 miles from La Paz and 35 miles from Gaugui, on Lake Titicaca. The line from Viacha to Oruro is 125 miles in length. About half the distance is completed and open to traffic. The rails and other material for the remaining section are either on the ground or at Mollendo awaiting transportation, and there is no reason to doubt that the expectation of the contractors that the railroad will be completed to Oruro and opened for traffic in June will be realized.

The total cost of this Oruro-Viacha section, including rolling stock, shop equipments, terminal facilities, engineering, and office expenses, will be approximately $4,000,000, or $32,000 per mile. It is not to be assumed, however, that the proposed network of Bolivian railways can be built and equipped at an average of $32,000 per mile. The central plain across which the Oruro-Viacha line runs is far from presenting a billiard-table surface. It is very broken, has some heavy grades, and requires a good deal of bridging and "viaducting" for protection against the rainy season. But it is of easy construction compared with the sections which are to be built in order to provide transportation facilities for the Potosi and other mineral districts, and its average cost per mile does not afford a safe basis of computation.

A VERY PROFITABLE LINE.

Part of the material for the Potosi section has been landed at Mollendo and will be delivered in the interior in time for the construction to begin in June. One of the unsettled questions, however, relates to this line. If laid in conformity with the original plans, part of it will parallel the Antofagasta-Oruro Railway between Myuni and Oruro, the distance between these two points being 195 miles. The Antofagasta line, whose total extension from the coast to its terminal point at Oruro is 575 miles, is, in proportion to its length, the most profitable railroad on the west coast of South America. It is operated by an English company, though some shares are held in Chile. The Bolivian Government guaranteed 5 per cent on $3,750,000, which was the capital estimated to have been employed in building the Bolivian section of 300 miles, but the traffic has been so profitable that the payment of the guaranty never has been necessary. Notwithstanding the profits, the company has done little for the development of Bolivia since it failed to exercise the rights claimed for building extensions and to provide sufficient transportation facilities for the territory which it should have served.

A DIFFICULT QUESTION.

The pending question is whether the Bolivian Railway Company, which is the American syndicate, and the Antofagasta company will come to some kind of a traffic arrangement for the operation of the Oruro-Myuni section of the Antofagasta line or whether the parallel road shall be built. One hindrance to an agreement is the gage of the Antofagasta road, which is 2½ feet, while that of the Bolivian railway is 3 feet 3⅜ inches, or 1 meter. The American capitalists would have preferred the standard gage of 4 feet 8½ inches, but the preference of the Bolivian Government and the lower initial cost caused the meter gage to be adopted. There is no probability, however, that the Americans will consent to take a step so far backward in railway construction as to incorporate a 2½-foot gage into any part of their system. The Antofagasta company, on its part, has a positive objection to the transshipment at Myuni, which will be necessary if the gage be changed. The shipments from the Huanchocho mines, near Myuni, which are in Bolivian territory, and from the Chilean nitrate fields, which lie convenient to the coast, would be continued over the very narrow gage section, but the products of the Oruro mining district, which might be shipped out by the Antofagasta line, and the general merchandise imported would have to be transshipped at Myuni.

THE GOVERNMENT MAY HAVE TO TAKE POSSESSION OF A ROAD.

It would be to the advantage of the Antofagasta company if the Viacha-Oruro line were not built at all, since this will divert some traffic by way of Lake Titicaca and Mollendo and later by the more direct route of Arica, but since the London company has not been able to prevent the construction of this railway, and will not be able to hinder more than temporarily the construction of further lines, the practical question is how best to adopt itself to the circumstances. In case the Bolivian Railway Company and the Antofagasta company fail to come to an agreement an extreme measure suggested is that the Bolivian Government expropriate the Myuni-Oruro section of the Antofagasta line.

London directors of South American corporations have not heretofore shown much disposition to accommodate themselves to new developments, particularly where their properties are earning satisfactory dividends without outlay for betterments or changes in the gage and new equipment. This may account for the doubts felt in Bolivia about an agreement being reached which will insure harmonious instead of competing and combative railway construction.

THE MARKET FOR MATERIAL NOT AFFECTED.

It is worth knowing that these complications will not affect the market for material. If a friendly understanding is reached by the Bolivian Railway and the Antofagasta line, it will enable a geographical modification of the routes agreed on in the contract between the Bolivian Government and the Speyer-City Bank syndicate to be made without decreasing the amount that ultimately will be paid out for material. Should a joint agreement be made, the gage of the Oruro-Myuni section will be widened from 2½ feet to 3 feet 3⅜ inches, which will practically mean the reconstruction of the line, and new rolling stock will be required. If this is not done at once, and the American syndicate in constructing the Potosi line parallels the Oruro-Myuni section of the Antofagasta line, the latter, to protect itself, in the end will have to adopt the meter gage. There are, in fact, railway men who insist that in spite of the profitable traffic which the Antofagasta company handles over a 2½-foot gage the whole line will be reconstructed on a meter gage. This would mean heavy purchases of new rails and rolling stock. But there are no indications from London that this possibility is recognized.

A NEW CHILEAN LINE.

In addition to the material which will be needed for the railroads of the American syndicate, there is now something more than a prospect that the so-called Chilean line from Arica to La Paz will be built. Complete and final engineering surveys have not been made to the extent of fixing a definite location from the Bolivian border, but the tentative surveys indicate alternative routes varying from 300 to 320 miles across the volcanic range of the Cordilleras. Whatever route is adopted, the Corocoro copper fields will be tapped and the Arica line will be the shortest one between the interior of Bolivia and the Pacific coast, though it will not traverse a region in which much local traffic can be developed.

Provision was made for the construction of the Arica-La Paz line by Chile under a treaty entered into by Chile and Bolivia in

October, 1904, and subsequently modified in some particulars. It is not necessary to repeat the details of the treaty or the reasons assigned for it. The intention was to provide Bolivia an important railway outlet within a short period and to create a market for railway material. A Chilean syndicate was given the concession for constructing the line, but proved unable to do so.

CHILE'S DELAY LEADS TO REMONSTRANCE FROM BOLIVIA.

The Bolivian Government was reported to have made energetic diplomatic remonstrances to Chile over the delay in beginning the construction of the Bolivian section. In November, 1907, under an agreement with the Chilean Government, the contract was taken over by the Deutsches Bank of Berlin, whose South American representative is the Banco Aleman Transatlantico. Partial funds are said to be in hand for the work, which is to be completed within four years. It is now reported that the Deutscher Bank has let the contract to a leading German construction company, which is building railroads in Venezuela and other foreign countries. It is assumed that the rails for the Arica line will be furnished by the German steel syndicate, but it does not follow that all the rolling stock and other equipment will come from Europe. The Banco Aleman Transatlantico is the Bolivian banking agent of the American syndicate, and its principal in Berlin is understood to have an interest in the syndicate's Bolivian enterprise. The assumption is that there will be reciprocity and that the American syndicate will become interested in the Deutsches Bank's enterprise. If this is done, there should be opportunity for the sale of railway material by manufacturers in the United States. The Americans who are now engaged in railway construction in Bolivia are not impressed with some of the reported engineering features of the proposed Arica line. One of these, which they regard as a serious mistake, is the adoption of a 6 per cent grade and the use of the rack and pinion system to surmount it. This plan, however, may be changed by the German engineers.

OTHER RAILWAY PROJECTS.

In addition to the actual construction of lines by the American syndicate and the prospective construction of the Arica line by the German banking interests, acting for the Chilean Government, there is the almost certain construction of a 55-mile extension in southern Bolivia by the Argentine Government. This will be from Quiaca, on the border, to Tupiza. The Argentine lines have now reached the boundary, and their prolongation to Tupiza has been provided for in several treaties and protocols signed by the two Governments. The Argentine Congress so far has failed to make the necessary appropriation for the Tupiza extension, but national interests will probably cause this policy to be reversed and the funds to be provided. Most of the material for the prolongation of the Argentine railways to Bolivia has been bought by the Argentine department of public works in Europe. The Tupiza section will require considerable bridge work, and American manufacturers will have time, through inquiries at Buenos Aires, to inform themselves of the conditions under which it may be supplied. The material used in the prolongation of the Argentine lines to Bolivia has been shipped by one of the Atlantic steamer lines direct to Rosario and there transferred to the railway, and this will be the route for shipments for the Tupiza extension.

BENEFITS OF AMERICAN RAILWAY MATERIALS.

One result of the building of the Bolivian railway system by Americans is already seen, but the full effect will not be apparent for some time. This is in the solid construction of the lines and in the high class of material and of rolling stock employed. Heretofore American manufacturers have supplied locomotives and other rolling stock because of their ability to adapt themselves to the somewhat peculiar requirements of the railroads, few of which have been constructed according to the ideas which obtain in the United States. The construction usually has been of a cheap character, with roadbed, bridges, and equipment suited only to limited traffic. When the traffic grew there was no means of meeting it. Locomotives were able to haul only light trains; bridges were able to sustain only light locomotives. The American capitalists can charge themselves with some costly mistakes in the first stages of their Bolivian railway experience, but lack of substantial and adequate construction is not one of them.

The Viacha-Oruro line will serve as the model for the whole system. The roadbed is of the most solid kind, 60-pound rails are used, the bridge work is very substantial, powerful locomotives are already at hand, and both the freight and the passenger cars which are being unloaded are of ample size and strength. I mention these particulars because they show the class of railway material that hereafter will be most in demand in the Andes. European and native companies may not at first be willing to acknowledge that a radical change has taken place and may for a time longer cling to the small Belgian engine and the bobtail freight car, yet finally they will follow the American example.

LACK OF TRANSPORTATION FACILITIES A HINDRANCE.

In concluding this outline of the status of Bolivian railway construction, and in answering some queries regarding the prospective market for material, a word is necessary concerning the limitations to more rapid building since the funds are available. These limitations are the lack of transportation facilities for bringing in the material and the scarcity of labor. Had it not been for these drawbacks the American syndicate would have had the Viacha-Oruro line completed in 1907 and the Potosi branch well advanced by this time. Some improvement in transportation from Mollendo has been effected, but the getting of material into the interior of Bolivia must continue largely dependent on this single route, since the Antofagasta company is without the facilities to handle large quantities, even if the disposition existed.

The German syndicate in building the Arica line will be able to unload its rails and other material at Arica, which has a much better harbor than Mollendo, and thus utilize its own construction mile by mile; but in obtaining labor it is not likely to be better off than has been the Bolivian Railway Company. The Cholos, or half-breed Indian population of Bolivia, have shown little adaptability to railway labor, even with the inducement of good wages. Those who are not mine workers or employed in pack-animal transportation have small farms of their own. While the cultivation of these farms yields scanty returns, the natives have shown little willingness to abandon it even temporarily for the better-paying railroad work.

FOREIGN LABOR WANTED—THE OUTLOOK.

Various plans have been considered for obtaining sufficient labor. One suggestion is for Italians. These have been employed satisfactorily in building the northern Argentina extensions, though not in large numbers. Another plan contemplates Japanese immigration. While final measures have not been adopted, the indications are that a few thousand laborers will be secured outside of Bolivia.

Whenever the general situation, both as to the relocation of some of the proposed lines and the attitude of the Bolivian and the Antofagasta railway companies toward each other, is cleared up, and the system that is to be constructed is determined, the information will be conveyed by Minister Sorsby, who has heretofore reported so fully on the subject. In the pending situation no definite statement is possible. But for the reasons I have stated in the opening paragraphs of this report the existing complications are not likely to stop the actual railway construction or to lessen the quantity of material that must be bought, though advantage may be taken of dull times to secure concessions in prices. Manufacturers in the United States already know that all the purchases of material for the Bolivian Railway Company are made in New York City, and they are familiar with the sources of information there. They may find it advantageous, however, to follow the progress of the German syndicate's plans for the Arica line and the prospect of supplying it with bridge material and rolling stock.

PERU.

MORE RAILS AND MATERIALS NECESSARY—NEW PROJECTS CONTEMPLATED.

Special Agent Pepper, writing from Lima, sends the following information concerning the purchase of railway supplies and projected railway improvements in Peru:

Peru, notwithstanding monetary conditions, is likely to continue a fair buyer of rails and railway material during 1908, particularly if there is a reduction in the price. Orders given more than a year ago are now being filled and the material is arriving. By the time all of it is delivered the probability is that further material will be demanded, in order to complete extensions and improvements already in progress and possibly to provide for some of the new projects. The prospective purchases include rails, ties, bridge material, and rolling stock. The Peruvian railways are supplied almost entirely from the United States, particularly when locomotives and rolling stock are wanted, and the outlook has therefore a special interest for American manufacturers.

The heaviest buyer is the Peruvian Corporation, of London, which operates the state railways, under lease, and which, through an arrangement with the Government, is carrying out the prolongations and extensions of several of these lines. During 1907 the Peruvian Corporation received 14,000 tons of steel rails, 312,000 ties, and material for 4 bridges of from 85 to 230 feet in length. A large order for locomotives was filled in the previous year.

The Cerro de Pasco Mining Company, which completed and opened its branch line to the Gollarisquisca coal mines, in addition to the rails for that branch was a purchaser of rolling stock, its orders including 2 locomotives, 15 forty-ton steel hopper coal cars, 25 ore cars, 10 flat cars, 12 gondolas, 10 under-frame boxes, and 2 cabooses. Some of these orders have been filled and deliveries are now being made of others. The growth of traffic in the Cerro de Pasco district indicates that further additions to the rolling stock will be required.

RECONSTRUCTION OF AN ABANDONED LINE—ROAD TO BE EXTENDED.

The Peruvian Government has undertaken the reconstruction of the line in the south from the port of Ilo to Moquegua, which was partially destroyed during the war with Chile in 1881, and was then allowed to be covered over by the drifting sands. The rails were ordered for this reconstruction and part of the material has been delivered to the contractor who this month entered on the work.

Several of the short lines in the north running from the coast back to the Cordillera are being prolonged further into the interior, among them those from Pacasmayo and Salaverry. Rails and material for these prolongations are included in the purchases of the Peruvian Corporation. It is possible that these extensions will be continued and additional material be called for when the present work is finished. A short line is also likely to be built from Tumbes—though no contracts have yet been made for rails and materials for it.

When the prolongation of the Central Railway from Oroya to Huancayo is completed the extension will be continued to Ayacucho, Congress having authorized it, and by the time this work is ready to be taken up funds will be available for the purpose—though no rails or material have yet been ordered for this extension.

The bulk of the purchases by the Peruvian Corporation, aside from the rails needed for the new lines, has been for relaying the tracks on the Central or Oroya Railway, the main trunk of which from Callao to Oroya is 138 miles in length. The traffic which was developed by the Cerro de Pasco Company, in addition to the ore shipments and the freighting of mining supplies for the mines already in operation, found the Central with very inadequate facilities, and some attempt was made to enlarge them, though not on a commensurate scale. Since the system was placed in charge of the present experienced general manager, and practical railway operation was put in force, a larger volume of freight has been handled with the existing facilities and the promise is held out that the betterments which are now being made will provide for a further addition to the traffic. Assuming that this is so it does not follow that the improvements can stop with the heavy purchases of material already made.

NEW WORK NECESSARY ON THE CENTRAL RAILWAY.

Whether the Central Railway be electrified, as proposed, or not, many sections of it must be practically rebuilt and much additional rolling stock be supplied if the stockholders in the Peruvian Corporation expect to secure the return on their investment which is obtainable. The extension being made from Oroya to Huancayo under contract with the Peruvian Government will provide new business, and the increasing traffic from the Cerro de Pasco Mining Company and the other new mining and smelting enterprises has been indicated. The betterment of the physical condition of the line and improvement in operating methods, instead of satisfying the requirements, are more likely to show the need of a complete reconstruction. The difficulty of securing funds in London, where a blanket loan has been proposed, is said to be responsible for the incomplete measures for placing the Central in a position to handle the future traffic which it can command.

One positive step already has been taken for placing the line in a condition to meet traffic requirements. This is the reconstruction of the bridges and the replacement of some of the old ones by new structures. Several of the bridges on the Central are notable among the many marvelous engineering features of this railway, stretching across deep gorges from tunnel to tunnel or from one precipice wall to another precipice wall. Their maintenance always has been a source of deep concern and the weight of the trains passing over them has been carefully calculated. Two years ago when a large number of locomotives were bought in order to provide for the growing traffic it was found that they were too heavy for the bridges to sustain them. A contract was then made with the American Bridge Company to replace the existing bridges, one provision of the contract being that the old structures should be removed and the new ones erected without interrupting the running of the trains. The material is now on the ground, the bridge company's expert workmen are also on hand, and the work is beginning.

On the Southern Railway, which runs from Mollendo to Lake Titicaca, the long bridge and trestle at Arequipa are to be dispensed with by the construction of a loop. Other betterments requiring considerable material also will be made on the Southern.

THE PROPOSED ROAD TO THE AMAZON.

If the terms of the concession granted in 1906 for a railway to the Amazon by the way of Ucayali River were literally complied with, there would be an early demand for a large quantity of steel rails, rolling stock, and other material, since construction was to begin in August, 1908, and the road was to be finished in 1913. Though the concessionaire has a forfeit of $100,000 up it is not expected that this will be exacted if the actual construction is not begun at the date specified, in view of the condition of the money market in the United States where the capital was to be raised. But in view of its importance to the development of Peru, and the provisions already made, interests financially strong enough to carry out the project are pretty certain to come forward and undertake the construction of this railway.

The concession is for a standard-gage line which, starting from a point between Oroya and Cerro de Pasco on the existing railway, shall terminate at a point on the Ucayali River, suitable for steam navigation all the year round for vessels drawing at least 5 feet. A subsidy of £2,000,000, or approximately $10,000,000, is provided in 6 per cent bonds at par value to be delivered in half-yearly installments and in proportion to the number of kilometers finished in the same half year, the payment of the last installment to be made when the railway reaches the Ucayali. A grant of 7,500 acres of forest lands is also made for each kilometer of the railway built. A further provision is the privilege of placing steamers in all the Peruvian region of the Amazon and its tributaries and a grant of 5,000 acres of land is made for each steamer of 500 tons so placed. The subsidy bonds to be issued are guaranteed by the tobacco imposts, which, under a law passed in 1904, are set aside for railroad purposes. They now range from $900,000 to $1,000,000 annually.

FINAL SURVEYS DELAYED FOR A LINE TO THE UCAYALI.

Various projects have been proposed for reaching the affluents of the Ucayali at the small river landings of Puerto Bermudez and Puerto Victoria and the length of the railway line necessary to reach them has been estimated at 225 to 250 miles. The route indicated in the latest concession is known as the Perené, and is said to offer a somewhat better line to the Ucayali. Numerous reconnoissances and horseback surveys of the various routes have been made, but there has been no engineering location yet attempted. The concession requires that the final surveys shall be completed and submitted to the Government by the end of 1908, but this, like other provisions, may be extended.

The purpose of the Peruvian Government in providing for the construction of the line to the Ucayali is both political and commercial. It is desirous of securing prompt and regular communication with its Amazon port of Iquitos and of bringing the rubber product of all that Peruvian region out through Peruvian territory to the Pacific instead of having it go through Brazilian territory to the Atlantic, as is now done. There are, however, commercial advantages much more immediate than those relating to the rubber product. Enormous quantities of timber are required by the Cerro de Pasco and other mines, and with the development of the mines that is now going on the demand is growing. This timber is brought down from Puget Sound to Callao and then shipped over the Central Railway, the ocean and railway freights making it very expensive. Some of the preliminary surveys, it is stated, have shown that large tracts of timber lie along the route to the Ucayali, not more than 60 or 70 miles distant from the existing railway. These and other considerations render it probable that while purchases of rails and material may not be made during the current year, some orders may be given for delivery in 1909.

ANOTHER PROPOSED ROAD OVER THE CORDILLERAS.

The Ucayali concession also authorizes a line from the same point on the Cerro de Pasco Railway to a specified point on the coast, and if this line ever should be built there would be through direct communication from the Amazon's tributaries to the Pacific. This line would parallel the Central Railway and would compete with it. Though the Cordilleras would have to be crossed at an elevation equal to that of the Central, or nearly 16,000 feet, it is claimed that many of the engineering obstacles which that railway encounters could be avoided. The subvention for this line to the Pacific is fixed at £475,000, or $2,375,000, in bonds at the rate of $7,500 per kilometer. For reasons unnecessary to detail this project does not receive the same encouragement that is given the line to the Ucayali, though it has some stout advocates, who are said to be willing to engage in it.

The Peruvian treasury has husbanded its resources for railway building prudently, and while a number of paper projects receive consideration, much conservatism is shown in the enterprises actually entered upon. The gold standard is maintained and the loans contracted for railways and other public works have not been large, so that the credit of the Government is good, and if in the future it should seek to supplement the means obtained from the tobacco revenue by a small loan this probably could be obtained. However, such a plan is not now in favor and it is sufficient to know that the Government has the resources available to meet all the obligations that will be incurred in completing the extensions and prolongations now under construction or which have been authorized by the Congress. These measures mean that before the end of the year additional orders are likely to be placed for rails and material. I have already indicated the probability that in spite of the belief that the material now being delivered for the railway system of the Peruvian Corporation and for the Cerro de Pasco Company is sufficient, both these companies will be calling for additional material before another year begins. The 3 chief prospective purchases of railway material in Peru are stated in the memorandum which I forward to the Bureau of Manufactures. [Names of prospective purchasers furnished upon application.]

MEXICO.

NEW SCHEDULES GIVING UNIFORMITY OF FREIGHT CHARGES.

Consul W. D. Shaughnessy, of Aguascalientes, reports as follows concerning the new freight rates on Mexican railways, as agreed upon by the parties interested, and which will take effect on April 1, 1908:

During the last three months the Mexican tariff commission has been investigating the proposed increases in freight rates on ore shipments, which have been advocated by the principal railroads of Mexico and strongly contested by the shippers.

A uniform increase of charges, to become effective April 1, 1908, has been agreed upon by the railroads, smelting interests, mine owners, and other shippers, approved by the tariff commission, and referred to the department of communications for final approval. No party can attempt to reduce these rates without violating their agreement. There have been protests made by the Mexican Central and Mexican National railroads against the commission because of the date for the rates to become effective and of its recommendation to the department of communications that the rates on concentrates remain the same. The mining interests contend that, in view of the ores which have been mined on the basis of the old rates and now await shipment, an opportunity should be afforded to place them at the smelters.

INCREASE ON ORES, HOW COMPUTED.

The new ore tariff, proposed to become effective April 1, on the Mexican Central and Mexican National railroads, makes an increase of 10, 20, and 30 per cent on the ore tariff now used by the Mexican National, according to the different classes. The ore is divided into three classes: Less than $25 Mexican in value (Mexican dollar=50 cents American currency); over $25 and not exceeding $50; and over $50—i. e., ores of third class, $25 or less, bear an increase of 10 per cent; ores of second class, not exceeding $50, 20 per cent, and ores of first class, over $50, an increase of 30 per cent. The valuations are arrived at on a fixed basis of value for the different metals, from the smelter assays, this basis being fully shown in the railway tariffs, which are as follows: Silver at $36.50 per kilo (kilo=2⅕ pounds); gold at $1.60 per gram; copper 30 cents per kilo. Lead at $1 per unit of 10 kilos, when the London quotation is £15 per ton of 2,240 pounds. For each change of 1 shilling there should be added or deducted accordingly $\frac{45}{1000}$ of 1 cent per kilo, or $\frac{45}{100}$ of 1 cent per unit of 10 kilos. Lime and iron at 15 cents per unit of 10 kilos.

From the total of the above values added together shall be deducted the total of the following items: What is known as insoluble matter, as usually determined at the commercial smelting works, shall be charged for at 20 cents per unit of 10 kilos. If over 5 per cent of sulphur is contained in the ore, such additional percentage shall be charged for at 50 cents per 10 kilos. A further deduction shall be made of $12 per 1,000 kilos.

MATTE RATES AND RATES BY CLASSES.

The copper matte situation will not be affected, as was erroneously stated in my previous report in Consular and Trade Reports, the rates being as follows (kilometer=0.62 mile):

Aguascalientes from—	Kilometers.	Copper matte rates.	Aguascalientes from—	Kilometers.	Copper matte rates.
San Luis Potosi	225	$3.18	Torreon	551	5.51
Cavitas	231	3.21	Stalforth	923	12.18
Salamanca	253	3.32	Rosario	944	12.83
Celaya Junction	296	3.53	Terrazas	1,064	7.84
Tlaxcoapan	521	5.20	El Paso, Tex	1,386	7.84

The freight rates in Mexico are on two bases: The regular class rates, and those known as specials. Class rates are given by distances on "local freight," and the specials, which cover only carload shipments, are given by distances and between stations. The increased rates which went into effect on the Mexican Central Railroad on August 9, 1907, are the same as those in effect on the National Railroad, the increase being from the third to the twelfth classes, inclusive. The actual rates for the twelve classes, in Mexican currency, per metric ton are given as follows, the minimum distance being 15 kilometers, with the exception of the International, on which the minimum distance is 1 kilometer:

Railroads.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
Mexican Central	$0.90	$0.86	$0.82	$0.78	$0.74	$0.70	$0.66	$0.62	$0.57	$0.53	$0.50	$0.45
Mexican National	.90	.86	.82	.78	.74	.70	.66	.62	.57	.53	.50	.45
International	1.50	1.35	1.29	1.21	1.14	1.07	1.01	.96	.90	.84	.80	.75
Interoceanic	.90	.86	.83	.80	.76	.73	.70	.66	.62	.59	.56	.53
Hidalgo	.90	.86	.83	.79	.75	.71	.68	.64	.60	.56	.53	.49
Ramal de Matehuala	.75	.72	.69	.65	.61	.59	.55	.51	.48	.44	.41	.38
Michoacan y Pacifico	1.05	1.01	.97	.93	.89	.85	.81	.77	.72	.68	.65	.60
Veracruz al Pacifico	1.20	1.13	1.06	.99	.93	.86	.79	.72	.65	.59	.52	.45
Tehuantepec National	1.20	1.13	1.06	.99	.93	.86	.79	.72	.65	.59	.52	.45

At the same time several special rates were raised, the increases being on wheat, corn, cotton seed, alcohol, tequila, wines, etc., and the minimum carload was increased from 10,000 to 15,000 kilos (10 to 15 metric tons). Native products are charged for according to a differential tariff, which is lower in proportion to the charges on imported goods governed by the general tariff.

NEW ROAD TO BE BUILT.

CONSTRUCTION OF ZACATECAS AND ORIENT LINE SOON TO BEGIN.

Consul Thomas W. Voetter, of Saltillo, advises that it is reported that construction is to begin shortly upon the Zacatecas and Orient Railroad, concerning which he says:

This road is projected to run from Camacho station of the Mexican Central eastwardly via Mazapil to Gomez Farias station on the National of Mexico, about 100 miles. It is to be made standard gage, so that equipment from connecting lines can be used. Ultimately it is planned to extend the road to Linares on the Monterey-Tampico line of the Mexican Central. There is no Federal subsidy. The country through which the line will pass has considerable mineral resources, now undeveloped. There are also possibilities of developing agricultural resources, but extensive irrigation systems will be required before any tonnage can be secured from this source. [The names of the concessionaires of the foregoing line and of a business man interested in the development of the territory it will traverse may be obtained from the Bureau of Manufactures.]

GUATEMALA.

NEW LINE BETWEEN ATLANTIC AND PACIFIC—TRADE POSSIBILITIES.

Consul-General William P. Kent, of Guatemala City, reports that on January 19 there occurred at the capital of Guatemala the formal ceremonies attending the installation of traffic over the completed line of the Guatemala Railroad. Its commercial importance is shown by the consul-general as follows:

The event was attended by great popular rejoicings, by official ceremonies, and by the presence of Gen. George Davis, special envoy of the Government of the United States. Nothing has ever occurred in Guatemala of greater national significance than the completion of this railroad, upon which is based the expectation of great internal development, closer relations with the United States, and a widely expanded trade with all countries. Its construction has been a great feat of engineering and is largely the fruit of American engineering, capital, and skilled labor.

About 25 years ago the Government of Guatemala undertook the construction of the road as a national enterprise, but after building 133 miles it turned the line over to American capitalists, who have now brought it to a successful conclusion.

AID TO AMERICAN COMMERCE.

It is impossible to dwell with too much emphasis upon the advantages to American exporters that arise with the opening of this railroad. Its length is 196 miles, and it connects Guatemala City, the capital of the Republic, with Puerto Barrios, on the Atlantic coast.

The ships of the United Fruit Company, at present plying weekly to and from New Orleans, accomplish the voyage usually in five days.

It is expected that a faster line will soon be placed in service and the voyage will then be reduced to three days. When this is accomplished it will be possible to journey from Guatemala City to New Orleans in five days, and to Washington and New York in seven. No exporting country will hereafter possess advantages of transportation or nearness to this market compared with those of the United States.

The Guatemala Railroad connects at the capital with the Central Railroad, which itself connects with the ports of San Jose and Champerico, on the Pacific coast of Guatemala. The distance from the capital to San Jose by the Central is 75 miles. Thus a third transcontinental line is now completed across Central America, connecting by a railroad of 271 miles in length the waters of the Atlantic and the Pacific.

UNITED KINGDOM.

INCREASE IN MILEAGE—RECEIPTS AND EXPENDITURES.

Consul-General Robert J. Wynne, of London, furnishes the following statistics concerning the railways and tramways of the United Kingdom:

The total railway mileage of the United Kingdom at the close of 1906 amounted to 23,063, an increase of 216 miles over that of the previous year. The paid-up capital increased from $6,363,005,000 in 1905 to $6,434,415,000 in 1906. The number of passengers carried on the several lines in 1906, not including persons holding season tickets, was 1,240,347,000, from whom fares amounting to $249,413,888 were collected, against 1,199,022,000 persons carried and $243,600,600 collected in fares in 1905. The quantity of merchandise conveyed in 1905 aggregated 461,139,000 tons, from which the receipts amounted to $282,057,945, against 488,790,000 tons and $291,971,085 in receipts in 1906, making the total gross receipts from all traffic $525,658,545 in 1905 and $541,384,965 in 1906. To these sums must be added the receipts from miscellaneous sources, amounting to $41,996,550 in 1905 and $44,754,690 in 1906, which brings up the total gross receipts to $567,655,095 and $586,139,655 for the two years, respectively. The total expenditures in 1906 amounted to $363,989,270, an increase of $13,665,955 over those of the preceding year.

At the close of 1906 there were 2,240 miles of tramways in operation in the United Kingdom, with a paid-up capital of $289,692,085, against 2,117 miles and $257,507,050 in capital in the corresponding period of 1905. The number of passengers carried on the lines in 1906 was 2,236,012,777, an increase of 168,099,551 over the previous year. The gross receipts in 1906 amounted to $53,215,890 and the expenditures $34,178,815, against $49,585,130 in receipts and $32,825,245 in expenditures in 1905.

SHEFFIELD TRAMWAYS.

MUNICIPAL OPERATION OF STREET CAR LINES.

Consul Charles N. Daniels, of Sheffield, reports that in a recent lecture by the general manager of the Sheffield tramways the following facts and figures were given:

Sheffield was the first municipality to own its tramways; not to own and operate them, Huddersfield claiming that distinction, whereas Sheffield constructed the tramways and leased them to a company. The city corporation began working them as a municipal undertaking July 11, 1892, and in nine years had increased them to four times their original length. There are 268 passenger cars, 100 being covered top cars, 110 open top, and 58 single-deckers; a new car costs $3,800 and weighs about 10½ tons.

The fact that the department has direct control of the generating station enables it to obtain its power cheaper than any municipal tramway purchasing its power. While the power costs Sheffield 1.316 cents per unit, Manchester pays 2.518 cents, Bradford 2.28 cents, and Liverpool 2.354 cents. At the Manchester rate the cost to Sheffield would be $156,340 more than at present. Seventy-three miles of trolley lines are in use, 25 miles of which have been renewed during the past year.

The average number of cars working each day approximated 185. The first car out of the barn is at 4.10 a. m.; last car in at 12.58 a. m. On an average each car runs 117 miles per day. Most of the accidents are trivial, and the principal cause is passengers entering and leaving the cars while in motion, the majority of those injured being women. In one week 18 passengers were injured owing to this practice, of whom 12 were women. Last year the compensation paid for injuries was $6,345, or 93 cents per 1,000 miles run, or about 8 cents per 1,000 passengers.

WORKING EXPENSES AND REVENUE.

The entire system furnishes regular employment for 1,500 men, and the weekly wage bill is $12,165. During the time of municipal management the hours of labor have been reduced 40 per cent, while the rate of wages has been increased for motormen 125 per cent and for conductors 200 per cent.

In 1907 the total number of miles run was 7,000,000; passengers carried, 74,000,000; receipts, $1,396,542; working expenses, $827,220; average length of 2-cents stage, 2½ miles. The receipts per car mile run are 19½ cents and the total working expense a fraction under 12 cents, leaving 7½ cents to meet interest, sinking fund, and all other charges.

The average number of journeys made per head of the population is 166 per annum; the average fare paid is 2.8 cents. Compared with other towns Sheffield does not stand very high as regards miles of track laid down, the number of inhabitants per mile of track in Sheffield being 12,450, as compared with 6,100 in Bradford, 7,923 in Leeds, 8,344 in Manchester, and 11,900 in Glasgow. With reference to the last set of figures it may be stated that while Glasgow has a population of 798,778 and an acreage of 12,796, Sheffield has a population of 450,000 and an acreage of 23,662.

The tramway permanent way has cost since 1896 $2,126,442, a large amount of which has been spent in paving a portion of the street surface on 35 miles of street. In addition to $53,651, which is paid by the department in general district and poor rates, a further tax is made upon the tramways for street improvements, the tramways paying interest and sinking-fund charges on $1,315,913 on that account at the present time.

BRITISH INDIA.

LOWER CHARGES MADE FOR MOVEMENT OF STOCK FOOD.

Consul-General William H. Michael, of Calcutta, makes the following report on the reduction of freight rates on the railways of British India for cattle feed, with some extracts from the recent report of the East Indian Railway:

The rates were 2 annas (4 cents) per ordinary wagon (car) per mile and double this rate for bogie wagons on the standard gage railways, and on the meter gage lines 2 annas (4 cents) for the first 50 miles, 12 annas (24 cents) for the next hundred miles, and 1 anna (2 cents) for the additional distance per ordinary wagon per mile, with double these rates for bogie wagons. It was a source of considerable satisfaction that the railways generally agreed to this.

The government of India, however, realizes that even greater assistance than that which is secured by these specially reduced rates is necessary in order to effect the movement of fodder in quantities sufficiently large to provide for the safety of the cattle within the famine area, and have decided, with immediate effect, that freight on consignments of fodder (excepting fodder for the army department) booked to stations in the provinces mentioned shall be recovered from the consignee at the rate of one-half an anna (1 cent) per four-wheeled wagon per mile and 1 anna (2 cents) per bogie wagon on consignments, and that the balance of freight calculated at the special reduced rates agreed to by the railways shall be paid by the government.

The Punjab Blue Book states that East Indian Railway, and other lines, and steamboat lines, have reduced rates on carrying cotton piece goods and yarn, kerosene oil and sugar between points in the Punjab and Calcutta. The value of the exports from the Punjab by rail and river for 1906–07 is stated to be $72,943,465, and the value of imports for the same year to be $74,568,150.

EXCELLENT SHOWING MADE BY AN EXTENSIVE TRUNK LINE.

According to the half-yearly report of the East Indian Railway, the company has in operation 2,206½ miles of road, of which 1¾ miles are quadruple, 2¼ miles are triple, 534¾ miles are double, and 1,668 miles are single line. The total length is 41½ miles more than it was at the previous half year, due to the opening on April 15, 1907, of the Kurjahlipur Branch. In addition to the above, the Delhi-Umbala-Kalka, 162¼ miles, South Behar, 78¾ miles, and Tarakessur, 22¼ miles, were worked by the company, making a total length of 2,469¾ miles.

The total capital outlay was $185,616,730, giving an average cost of $80,675 per mile on 2,206½ miles. Since the last report there has been a further issue of debenture stock to the extent of $10,000,000, bearing interest at 3½ per cent, at a discount of 5 per cent. The capital expenditure during the past half year was $2,412,819, of which $2,173,490 was for rolling stock and works for the open line. The gross receipts during the same period amounted to $14,688,920, and the working expenses to $5,379,751, leaving $9,309,169 as the net earnings. After paying interest and other charges against net earnings, there was a surplus of $3,539,447. The gross receipts are the highest on record, being an increase of $554,972 over last year's figures.

Of the expenditures, salaries and office expenses amounted to $844,690. Of this, general administration cost $34,248; engineering, $193,675; locomotive, $147,137; carriage and wagon, $41,113; traffic, $180,443, and audit and account, $79,140, the balance being distributed in other directions.

The earnings are about as much now as before the strike. For the week ending December 14, 1907, the earnings amounted to $557,333, against $544,335 for the same period in 1906.

NORWAY.

PROJECTS WHICH ARE LIKELY TO BENEFIT AGRICULTURE.

Consul B. M. Rasmusen, of Stavanger, writes of the need of improved inland transportation in Norway:

Emigration has reduced the population of this district to such an extent that necessary help for farm labor can no longer be obtained.

While people are thus leaving for other countries, large tracts of land that need only to be cleared and drained lie untouched, owing to the scant railroad transportation facilities.

The railway from Stavanger to Egersund, constructed about twenty-five years ago, gave a start to the reclamation of waste land, which has resulted in the transformation of Jaederen into one of the chief agricultural districts of Norway. The construction of an electric railway from Haugesund to Odda, a distance of 75 miles, which is now under consideration, would undoubtedly prove of similar benefit to that section. Another transportation project is the organization of automobile routes from Stavanger to adjacent points. This consulate is ready to furnish further information as these plans develop.

WATERWAYS.

CANADA.

FURTHER STEP IN THE GEORGIAN BAY CANAL ENTERPRISE.

Consul A. G. Seyfert, of Collingwood, advises that the engineer in chief of the Georgian Bay Canal survey has presented to the Dominion Parliament an extensive report of the year's work, which was largely confined to the French River between Georgian Bay and North Bay, a distance of 31 miles. The consul summarizes the report thus:

The approximate estimated cost of the canalization of the French River is $14,000,000. The plan of the Georgian Bay Canal contemplates a ship canal of a depth of 22 feet, and provides for the creation of three reaches between the Georgian Bay and Lake Nipissing by means of locks and dams, the lift of the locks varying from 22 to 24 feet.

The report also contains a general review of the whole scheme from Georgian Bay to Montreal, a distance of 440 miles. It is pointed out that the ascent from Georgian Bay to summit level is 99 feet, while the descent from summit level to Montreal is 659 feet, making a total lockage of 758 feet. This would be overcome by 27 locks, varying in lift from 10 to 50 feet. The report points out that the proposed canal would mean a great saving in distance from the interior to the British market. From Fort William to Liverpool via New York is 4,929 miles, while via the Georgian Bay Canal it would be only 4,123 miles, a saving of 806 miles in favor of the route via the Georgian Bay, Ottawa, and Montreal. The route is also described as practically a chain of deep lakes or wide river expansions, so that the construction of the proposed canal would involve the canalization of only 275 miles, leaving 357 miles of free navigation.

TRANSPORTATION ECONOMY—WATER POWER.

It is computed that the route will be about two days faster for each trip from the head of the lakes to an ocean port than any other route, apart also from its advantages in having an enormous superiority as to carrying capacity. This would naturally have a great tendency to reduce transportation rates on grain and other products, and in case of congestion at the terminal elevators at Port Arthur and Fort William, before the close of navigation, the great depth of the waterway would enable the largest lake boats to reach an ocean port fully loaded without breaking bulk.

The geographical position of the waterway is also excellent, as it will be independent of all international waters, being fed at its summit by waters well within Canadian territory. Its northern latitude would also be of some advantage for the transportation of perishable foodstuff during the hot season, as compared with the southern route through Chicago and the Mississippi River. The canalization of the Ottawa River will also be of distinct benefit by creating practically unlimited water power more than half developed, which will be available for all kinds of industries and from which a revenue could be derived.

One objection made by some of the opponents of the project, that it would freeze up sooner than the St. Lawrence, is met and controverted; but it is pointed out that even if the average closing of Lake Nipissing is two days earlier than Montreal, navigation could easily be maintained by a couple of steel-clad tugs.

COLOMBIA.

SUBSIDIES SUBSTITUTED FOR EXPORT BOUNTIES ON MAGDALENA RIVER.

Consul Isaac A. Manning, of Cartagena, furnishes the following information concerning the new regulations governing the carrying trade on the Magdalena River in Colombia:

After a brief trial of the export bounties on coffee and other articles paid to the transportation companies doing the carrying trade on the Magdalena, the Government has suspended the payments, and in lieu thereof the companies will receive a subsidy of $1,000 gold per round trip between Barranquilla and Calomar and El Dorado on the upper river, for which they will give a reduction of freight rates on certain articles for export, which come almost altogether down that route.

The freight rates up river, from Barranquilla and Calomar to the Bodegas de Bogota and Caracolà are $17 and $15.75 per metric ton, respectively, and from the latter places down to Barranquilla and Calomar $12.50 and $11.50 per ton, with relative reductions to intervening points.

All classes of machinery of an industrial or agricultural nature or for mining uses, all kinds of tools and implements, natural and chemical fertilizers, wire fencing, iron or metal roofing, water pipe, hydraulic cement, lubricating oils, live plants, and sacks for coffee must be carried at a discount of 25 per cent from the above rates, while dried fish and soap, candles and cotton and woolen goods manufactured in the country shall be carried at a discount of 50 per cent.

Of the "down river freight" coffee and hides for export must be carried at a discount of 25 per cent, and also sugar. Cotton, vegetable fibers, flour, potatoes, corn, rice, wheat, and small fruits, sent to the coast for export, as well as military supplies, enjoy a discount of 70 per cent from the tariff rates.

First-class passenger from Barranquilla or Cartagena to the Bodegas de Bogota $32, with relative reductions to intervening points.

For a stateroom on the steamers there is a surcharge of 20 per cent. Second-class passengers pay two-thirds of the regular tariff and third class or "deckers" pay one-third. First-class passengers are allowed 330 pounds of baggage, second class 165 pounds, and third class 110 pounds.

BICYCLES IN GERMANY.

REGULATIONS GOVERNING THEIR USE ON THE ROADS IN BADEN.

Consul E. Theophilus Liefeld, of Freiburg, furnishes a copy of the regulations concerning the use of bicycles on public roads and in public places in the Grand Duchy of Baden, which went into effect January 1, 1908. A brief summary follows:

Every bicycle must be provided with a good working brake; a clear-ringing bell must be used as a warning signal; and a bright-burning lantern with colorless lens which must be used when it is dark or during a heavy fog. The cyclist must have on his person a card of identity showing that he has a right to ride a wheel, which he must exhibit upon request to the proper authorities. The card of identity costs 23.8 cents. Foreigners are also obliged to carry cards of identification which are good all over Germany.

The speed of riding is to be controlled so that there will be no danger of accidents and collisions. When riding on roads which are obstructed from sight or in dense fogs, turning from one street into another, passing over narrow bridges, as well as riding down hill, etc., the cyclist must ride cautiously and slowly. In all these cases he is not permitted to ride without holding the handle bars, or removing his feet from the pedals. The bell is to be rung at all places obstructed from the sight of the wheelman. The passing around of vehicles is forbidden, if it disturbs traffic in any way or is liable to frighten animals.

The riding of bicycles, except upon special paths for wheelmen, is permitted only upon such roads as are used for general traffic; the wheelman must not ride on embankments or sidewalks, intended for pedestrians, if such are at a higher level than the roadway. Special paths for wheelmen can be closed at any time by a police ordinance. Racing is not permitted on public roads, and can be allowed only upon special permission of the authorities.

FINANCIAL.

MUNICIPAL ADMINISTRATION.

GERMANY.

FREEDOM OF MUNICIPALITIES UNDER THE LAW OF THE EMPIRE.

The following information concerning gas plants in the cities of Saxony is furnished by Consul George Nicolas Ifft, of Annaberg:

Under German law municipal corporations may and do engage in almost any kind of business which the council may regard as for the welfare of the municipality, ranging from the ownership and operation of railroads, street railways, mines, smelters, and factories, to mercantile establishments, bakeries, and butcher shops; or they may, and often do, fix the price at which bread, meat, beer, or any other commodity, regarded as among the necessities of life, may be sold. These powers are often invoked to prevent monopolies or the raising of the price of foodstuffs, through combinations of tradesmen. It is noteworthy that such powers are, in the main, wisely used, a fact due largely to the habit of selecting city, town, or village councilmen from the ranks of men of large affairs and independent means. Also, in a measure, to the fact that a councilman's first term is for six years, and that a reelection is for life.

RESULTS OF MUNICIPAL OWNERSHIP.

Municipal ownership, however, even in Germany, is not without its critics, the burden of the criticism being that similar conditions do not produce similar results, or that the management of the municipal plants seems to aim at the earning of large profits, rather than the general welfare, through the delivery of necessities at cost prices. The municipal gas plants of the principal cities of the Kingdom of Saxony may be cited as examples along both these lines of criticism.

As early as 1833, 1836, and 1844, Dresden, Leipzig, and Berlin, respectively, had gas plants, but for a number of years thereafter the gas plants in Germany very generally remained in the hands of private parties, and mostly in those of foreign corporations. When the gas industry began to find a place in even the smallest villages, and to become a more and more important economical factor in community life, these plants were taken over by the cities. Existing plants were either bought, mostly at large prices, or entirely new plants were built, until to-day gas plants owned or controlled by the municipalities are the rule, and private gas plants the rare exceptions.

PRODUCTION OF GAS AND BY-PRODUCTS.

There is a general uniformity in the construction and operation of German municipal gas plants, brought about through the thorough organization and frequent meetings of gas superintendents and gas experts. Reasonable uniformity as to results should follow, but the complaint is that such results are not obtained; that, even in neighboring cities, where conditions are practically the same, results differ widely, as will be seen from the following statement showing the production of gas coke, and tar from a metric ton of coal in the gas plants of the principal cities of Saxony:

City.	Gas.	Coke.	Tar.
	Cubic feet.	*Pounds.*	*Pounds.*
Chemnitz	10,519	1,294	152
Dresden	11,915	1,296	139
Leipzig	10,418	1,450	123
Plauen	9,954	1,265	126
Zwickau	11,519	1,506	154

Leipzig and Dresden are cities of more than 500,000 population each, Chemnitz 250,000, Plauen 105,000, and Zwickau 70,000.

COST TO CONSUMERS AND COST OF PRODUCTION.

Most of the Saxon city gas works earn handsome revenues over and above reasonable interest on the money invested, which lends some color to the criticism that they are operated to make money rather than for the purpose of furnishing the cheapest possible gas supply. Another frequent complaint is that their management is even more autocratic than when they were in the hands of private corporations.

For the larger Saxon cities the cost of gas to the consumers, the cost of production, and the profits thereon, per 35.3 cubic feet, are given as follows, in American cents:

City.	Cost to consumers for—		Cost of production.	Profit.
	Light.	Cooking and motors.		
	Cents.	*Cents.*	*Cents.*	*Cents.*
Dresden	4	3	2.9	1.5
Leipzig	4½	3	3.9	1.0
Plauen	4½	3½	4.2	.6
Zwickau	4½	3	1.8	1.5

These prices, compared with those of some of the other German cities, are high. In Düsseldorf and Eberfeld, for example, gas for cooking is supplied at 2 cents per 35.3 cubic feet. More noteworthy, however, are the differences in the cost of production—as for instance, 4½ cents in Plauen and only 1.8 cents in Zwickau. These are neighboring cities of about the same size. Other parts of Germany show even greater differences. In Kiel the excess of earnings over cost of production is only one-half a cent, while in the neighboring city of Hamburg it is 1.9 cents.

DENMARK.

A GRADUATED INCOME TAX IN THE CITY OF COPENHAGEN.

Mr. M. F. Egan, American minister to Denmark, furnishes a number of translations from Danish newspapers in regard to certain important changes proposed in taxes in the city of Copenhagen. The first, from the Nationaltidendo, reads as follows:

> It is proposed to introduce a communal property tax for the first time in the history of Copenhagen, and in place of the present income tax on a fixed scale an income tax on a rising scale, whereby the tax on incomes from 800 to 4,200 kroner (kroner 26.8 cents) is reduced. The amount lost on the above amounts, together with the surplus in the proposed taxation, is to be paid by those having incomes over 4,200 kroner. The scale is as follows:

Amount of income.	Rate of taxation.
Under 900 kroner	⅘ per cent.
From 900 to 2,000	⅘ per cent of the first 900 and 2¼ per cent of balance.
2,000 to 4,000	1.6 per cent of the first 2,000 and 3.2 per cent of balance.
4,000 to 10,000	2.4 per cent of the first 4,000 and 3.4 per cent of balance.

This continues to increase until the maximum is reached, which, for incomes of 100,000 kroner and above, is 4.4 per cent of first 100,000, and 5.6 per cent above that sum. However, this does not give the final tax. It is proposed to have a moving scale of taxation of wide extent. The town council may raise the property and income tax by one-fifth of the average tax during the last three preceding years.

The Politiken newspaper has the following to say:

> The report of the committee on this important matter is a little book of about 50 pages. The proposed income and property tax will give an additional yield of 650,000 kroner. Of this sum 230,000 kroner is derived from the income tax and 420,000 from the property tax. A rising scale is introduced, according to which all those persons whose incomes are less than 4,200 kroner a year will pay less in taxes than heretofore; those who have an income up to 7,000 kroner pay a small increase in tax; those who have an income of 10,000 kroner pay only 50 kroner more than now. Thus the whole burden of the new taxation will fall upon the large incomes.
>
> The town council is given a certain amount of freedom in determining whether the full amount of the taxes shall be claimed every year or not. It may be increased or decreased, according to the state of the finances of the city. If, for instance, should the budget of the city demand a yield of 5,500,000 kroner as income and property tax, and should the present scale only yield 5,000,000, then they may raise both the income and property tax 10 per cent.

Another Copenhagen journal, the Berlinsketidonde, states:

> In 1906 the number of taxpayers in Copenhagen was 87,661. Of these, 81,919 will pay a less tax if the report is accepted, while the rest, namely, 5,742, will pay the whole increase in taxation of about 230,000 kroner. They will also pay the decrease in the tax of the 81,919, and will thus bear the whole additional burden.

ENGLAND.

SHEFFIELD'S HEAVY DEBT LOWER THAN SOME OTHER CITIES'.

Consul Charles N. Daniels, writing from Sheffield, says that the growth of municipal trading by the cities of England during the last decade or two has been accompanied by a steady increase in municipal indebtedness, some of the facts of which he gives:

Sheffield for some time has had the matter under consideration by a special committee of the council, and its recent report shows that the outstanding loan debt of the city at the end of the financial year was $43,063,445, after deducting sinking fund on hand. This, for a city of not more than 450,000 inhabitants, is a considerable indebtedness; the committee congratulate themselves, however, that big as this city's debt is the amount is $19,464,000 less than that of Leeds, $29,196,000 less than Liverpool's, $38,928,000 less than Birmingham's, $43,794,000 less than Glasgow's, $68,124,000 less than Manchester's, and $102,186,000 less than London's. During the year the debt increased $1,206,768, the capital expenditure during the same time being $1,051,056. Of this amount nearly one-half, $491,466, was spent in education. The other principal items were: District rate account $160,578, dwelling-house improvement account $83,722, water $107,052, tramways $63,258, electric lighting $102,186.

The income from rates during the same period was $2,755,876, the expenditure $2,880,696. Taking the corporation as a whole, the payments for the year were about $8,515,500.

The income continues to increase; the following principal items for the year being compared with those of the preceding year:

	Present income.	Previous year.
Water rate	$782,861	$749,788
Tramways	1,379,155	1,242,828
Electric supply	338,021	301,555
Markets	155,308	150,898

As the capital expenditure has not been heavy the corporation borrowing has not been as large as in recent years. All the money required has been secured at 3½ per cent. During the year a general perfecting of the financial system has been inaugurated, which enables Sheffield to congratulate itself that in matters of finance it is not as bad as are many other cities.

FRANCE.

MUNICIPAL OPERATIONS GOVERNED BY THE CIVIL CODE.

Consul Chapman Coleman furnishes the following information concerning the public service in Roubaix:

The general and special laws governing municipal ownership and the operation of the public services (gas, water, electric light, street car, and telephone) in Roubaix, as well as in all other French cities, are contained in the body of the laws of France, known as the "Civil Code."

The municipality of Roubaix, like other French cities, conducts the services in question, or empowers private companies to conduct one or more of them, under concessions based upon contracts entered into, in accordance with the provisions of the general and the special laws of France, which govern such action.

The laws governing taxation of public service companies and of public services operated by municipalities are, in either case, those contained in the body of French laws. Such dues and compensation as accrue to the municipality from private companies operating public services, in consideration of concessions, are fixed by the rules, regulations, and general provisions of the contract entered into between the municipality and the particular company.

The city telephone service is conducted by the Government of France, in connection with the French post and telegraph services. The administrative authorities of that service have, however, declined to furnish a report respecting it. The following meager data in regard to the service, obtained elsewhere, may be of some interest:

The service is performed by 4 male and 63 female clerks; in 1906 the number of new subscriptions was 85, of withdrawals, 30; the total number of subscribers at the end of the year was 1,351, and the total receipts for the year $44,074.

BELGIUM.

NO STATE LAWS GOVERNING MUNICIPAL CORPORATIONS.

Consul-General Ethelbert Watts, of Brussels, furnishes the following information concerning the manner in which the public services are conducted in that city:

There are no state laws in Belgium governing municipal corporations. There are in Brussels nine separate municipalities, which are autonomous, and they, if approved by the provincial government, have the right to concede to any private person or company any public service within their respective limits. The municipal authorities, being elected by the taxpayers, are accountable only to them. The question has been brought before the chamber of deputies, and a law is pending which would restrict the rights of municipalities.

The municipal ownership and the operation of public services—such as water, gas, and electricity—are not governed by any special laws, except those made by the municipalities themselves. The telephone service is operated by the Government. The Government has jurisdiction over tramway companies, because the service is an intermunicipal one, and it would be impracticable to obtain concessions from the various municipalities through which the cars run, therefore only the Government has the right to grant a concession.

There are no laws governing the taxation of public companies or of public services operated by municipalities, these taxes being fixed by the municipalities themselves.

BANKING IN SPAIN.

AN AMERICAN BANK NEEDED—A MADRID BUSINESS MAN'S STATEMENT.

Théophile Bénard, a prominent business man of Madrid, sends the following interesting letter concerning "the banking facilities of Spain, and how they can best be improved, with a view to the development of American trade and other interests:"

Putting aside the private bankers, established in all the chief towns, it may be said that real banking corporations only exist in three cities or centers of intensive traffic such as Barcelona, a considerable focus of industry and trade; Madrid, the national capital the center of Spanish finance and administration; and Bilboa, the chief export harbor for iron ore. Those three cities possess banks of a certain importance, either Spanish institutions or agencies of French, German, and Argentine banks. In addition to the three cities mentioned there are small banks in Valencia, a considerable export harbor for fruit; Jerez, a center for wine; San Sebastian, a seaside resort possessing moderate industries; Santander, Gijon, Burgos, Valladolid, and Pamplona. These include the totality of our banking corporations, excluding of course the Bank of Spain, a chartered bank of issue, with branches in each provincial capital.

To sum up, the Barcelona district (east) holds ten banks, with a total share capital of $11,000,000; net profits, $680,000; deposits,

$96,000,000. Madrid (center), 4 banks with a total share capital of $15,300,000; net profits, $1,600,000; deposits, $57,000,000. Bilbao, Asturias, etc. (north and northwest), 10 banks with a total share capital of $9,600,000; net profits, $1,400,000; deposits, $316,000,000. The "deposits" include money and securities. Besides, the Crédit Lyonnais has established 5 agencies; the Deutsche Bank 2 agencies (Deutsche überseeische Bank); the Dresdner Bank 1; the Banco Español de Rio de la Plata 1—all those agencies being very prosperous and of considerable help to the trade of their respective countries.

Most of the Spanish banks have been created since the Hispano-American war, and though there is nothing to be said against the soundness of their constituent elements, it is the general belief among dealers of all classes that these banks look more for their profits toward speculations in gold and loans on securities than to giving facilities in discount, advances on consignments, warrants, document bills, documents credit, etc. Therefore, it seems obvious that, considering only the internal traffic in Spain, there is room for additional banks, whose main efforts would be directed to reaching medium or small dealers of good reputation and situation, who are now actually deprived of reasonable facility or credit in any of the markets.

DEVELOPMENT OF TRADE WITH SPAIN.

Looking now to the development of American trade with Spain, if I express the conviction that the American interests require necessarily and promptly the establishment of a special American bank for Spain, I shall but confirm similar opinions given by numerous United States consuls with respect to their respective posts all over the world, and made public in Daily Consular and Trade Reports. As a rule, American manufacturers and merchants grant no credit at all to foreign purchasers. This policy is undoubtedly a sound one to a certain extent, but on markets where the competition is keen and constant, where German merchants grant credits ranging from three to twelve months, sometimes more, I see no other means of extending American business than by accepting the risk involved in the grant of credits of at least three months, or establishing a bank with a proper local organization which will undertake to accept the risk.

It seems to me that such a bank need not be started with a large amount of capital, but should, on the contrary, start modestly, following the example of some foreign institutions which might be mentioned, which began very small and have since become considerable corporations. The bank should be created in connection with the chief American exporters of cotton, tobacco, staves, and petroleum, or importers of Spanish oil, ores, grapes, wines, and if possible backed by well-known American bankers. Special attention should be given to information, not only on the credit of exporters and importers, but also on possibilities of all classes toward development of trade between both countries. Facilities should be granted on consignments or personal security to worthy dealers, and the bank should be prepared in some cases, and according to the position of dealers, to substitute itself for the American vendor in the risk of the ninety days' bills accepted by the Spanish purchaser.

OTHER WORK FOR AN AMERICAN BANK.

The bank ought also to undertake the examination of new schemes of public works, railways, etc., on account of American firms, without taking a personal risk, but offering, with its character of American bank, such a preliminary guaranty of impartiality as would induce the American firms to move and secure the contract before it is taken by competitors.

The promoters of such a bank should not at the beginning apply to Spanish capitalists for the subscription of shares, but adopt the policy pursued by the active Banco Español de Rio de la Plata, which some years ago established an agency in Madrid, and having obtained a well-deserved credit on the market, has recently been able to place a substantial amount of its shares among the Spanish investors. On the other hand, the American bank should secure a certain degree of local support which would be a guaranty to both shareholders and customers.

To emphasize my opinion, I may say that the evolution of Spanish affairs as shown in my previous contribution to Daily Consular and Trade Reports, is going on in all directions. Our railways show a constant increase of receipts; our budget for 1906 has closed with a surplus of $20,000,000, and that of 1907 is likely to show a similar result. The gold premium oscillates within a narrow limit around 10 per cent, since the conclusion of the political Anglo-Spanish agreement; a greater activity prevails in mining developments; several hydro-electric schemes are in way of realization; a great amount of money is ready for sound investment, due to the consolidation of our public credit at a rate lower than 4 per cent and to a scarcity of debentures paying more than 4 or 4¼ per cent.

It is now obvious to everybody, especially to English financiers, that Spain is going ahead and will claim the attention of foreign investors as soon as the circumstances of the money markets will warrant.

The bulk of American imports into Spain amounts to about $17,000,000, and consists of cotton, tobacco, staves, and petroleum, staple goods of absolute necessity. American sales of manufactured articles which could compete are not likely to increase much on the actual terms of cash.

MONETARY AFFAIRS.

GERMANY.

FINANCIAL STRINGENCY IN EMPIRE—CONTINUED INDUSTRIAL ACTIVITY.

Consul Talbot J. Albert, of Brunswick, furnishes the following information concerning the demand for money in Germany in 1907. He says:

The immediate cause of the crisis in Germany has been the intense business enterprise. A disastrous commercial panic has been solely averted by the beneficent operation of the power of expansion and contraction of the circulating medium, and the regulation of the rate of discount exercised by the Imperial Bank. There have been a number of minor failures of less carefully conducted business houses and banks, which would have succumbed, sooner or later, without a crisis. As a whole the commercial, financial, and industrial enterprises of the country rest on a firm foundation, which has not been shaken by the monetary stringency.

There has been no overproduction or overspeculation. The demand for goods has not ceased. The traffic returns and profits of the railroads are exceptionally good. The prices for food, coal, and the necessaries of life are extremely high, and show no diminution. There is a demand for higher wages and higher salaries. Except in the building trades, where there have been strikes, there is, comparatively speaking, no labor out of employment. There is no cry of poverty, or evidence of panic. No mills or manufacturing establishments of importance have been closed. There has only been a scarcity of money, and the situation is gradually improving.

BANK-NOTE TAX—DISCOUNT RATES.

The German Government is considering the question of abolishing the limit on the quantity of notes which may be issued by the Reichsbank free of tax or an increase in their amount. It is asserted that the limitation is only a hamper on the bank, and has nothing to do with prudent banking, which depends upon the metal reserve of the bank to the outstanding circulation; that the tax was a compromise between the English system of banking and the unlimited issue of paper money.

The following is a list of the discount rates prevailing in important money centers in November at the height of the crisis, and their subsequent reductions when the stringency began to cease after the 1st of January, 1908: Bank of England: January 2—7 to 6; January 16—6 to 5; Bank of Germany—January 13, 7½ to 6½; Bank of Belgium—January 13, 6 to 5; Bank of Roumania—January 12, 8½ to 7½; Austro-Hungarian Bank—January 10, 6 to 5; Bank of France—January 9, 4 to 3½. It is to be noted that the rate of discount was higher in Germany than in any other country mentioned except Roumania. This is to be attributed to the intense business activity of the country and consequent demand for money.

BRAZIL.

FIRST YEAR'S WORKING OF THE CONVERSION OFFICE.

Mr. Irving B. Dudley, American ambassador to Brazil, transmits an article from the Brazilian Review of December 31, 1907, entitled "The working of the Caixa de Conversão (Conversion Office) during the first year of its existence," from which the following information is extracted:

The Caixa opened its doors for the reception of gold against notes convertible at sight at 15d. per milreis, just one year ago, on December 21, 1906. At the time predictions of failure were freely indulged in, and the possibility of maintaining at par two distinct species of legal tender, one convertible on presentation at a fixed rate, the other inconvertible, merely credit paper, the gold value of which is entirely a function of the balance of foreign payments, was regarded, even in many well-informed quarters, as impracticable.

It is a fact that few of the gold notes are in active circulation. They have been withdrawn by the banks and others to serve as their cash reserves, but in doing so have displaced an equal value of inconvertible notes, which have thus come into active circulation.

The "fixation" of exchange, as we foresaw, has had another important effect, in so far as thereby banks and merchants have been able to effect a very much larger volume of business with much less money.

The function of the Caixa de Comersão is to prevent exchange going up by issuing notes against gold at 15d. per milreis, and from going down by redeeming these notes at the same rate.

The policy of the Government is to accumulate sufficient gold to guarantee the ultimate conversion of not only the new convertible issue, but of the mass of inconvertible notes, some 640,000,000 milreis.

Since the Caixa de Coñversão was opened on December 21, 1906, the maximum ninety-days' rate of exchange on London has been 15$\frac{13}{32}$d. and the minimum 15$\frac{1}{16}$d., a variation of only $\frac{11}{32}$d. During the same period in 1906, 1905, and 1904, the variations were 3$\frac{1}{8}$d., 4$\frac{13}{32}$d., and 1$\frac{3}{4}$d., respectively.

About October, the Bank of Brazil commenced buying bills for future delivery that were liquidated later on in gold, which was imported. From the commencement of November, 1906, to the end of October, 1907, the economic movement has been as follows:

Exports of merchandise	$291, 464, 295
Imports of merchandise	195, 939, 821
Excess of exports	95, 524, 474
Remittances on account of Government, joint stock companies, etc	58, 398, 000
Difference	37, 126, 474
Gold imported	28, 571, 950
Difference—invisible demand for remittances	8, 554, 524
Amount deposited up to December 21, 1907	33, 776, 520
Withdrawn	4, 100, 658
Remaining in deposit	29, 675, 862

Notes emitted 111,052,900 milreis; converted, 13,493,150 milreis; in circulation, 97,559,750 milreis; fractional coins issued, 8,048 milreis; total in circulation, 97,567,798 milreis, equivalent at 15d. to £6,097,988 ($29,675,862).

CANADA.

LARGE EXPENDITURES FOR THE DEVELOPMENT OF THE COUNTRY.

Consuls John E. Hamilton, of Cornwall, and Almar F. Dickson, of Gaspe, furnish the following report on the revenue and expenditures of the Dominion of Canada:

There has just been issued from Ottawa a statement of the revenue of Canada for the ten months ended January 31, 1908. The aggregate was $81,024,272, against $71,645,730 for the same period of the previous year. The expenditures on current account were $56,332,534, against $45,682,302 for the comparative ten months of the previous year.

The revenue for January, 1908, was $7,268,313, against $6,963,976 in January, 1907, and the expenditures for the same comparative months $10,665,448 and $8,632,194, respectively. The increase of capital expenditures in a greater ratio than the government receipts is due to public works and railways. On the new Transcontinental line so far $17,446,485 has been spent as against $7,308,071 up to January 31, 1908. The net debt of the Dominion stands at $259,504,613, an increase during January, 1908, of $5,761,161.

There are in the Dominion 46 railways operated by electricity, with a mileage of 815. In the year ended June 30, 1907, they carried 273,999,404 passengers and 479,371 tons of freight. The gross earnings were $12,653,905, and the net earnings $4,898,654.

SPANISH NAVY REORGANIZATION.

NEW REGULATIONS PROVIDE FOR CONTRACTS AND NEW EQUIPMENT.

In transmitting a translation of that part of the new law of January 6, 1908, providing for the reconstruction of the Spanish navy, which mainly concerns foreign manufacturers, Mr. William Miller Collier, American minister at Madrid, under date of January 10, comments:

It will be apparent that the Spanish Government contemplates the purchase of such material abroad. It is generally understood that the specifications on which the contractors are to bid will be published about the end of January, and that two or three months thereafter will be allowed for the formation of the Spanish corporation referred to in this law.

Attention is called to the total appropriations for naval work, which amount in round figures to 200 million pesetas (silver peseta now worth about 17½ cents). Of this amount, however, only 170 millions, in round figures, are for the construction of new ships. This new construction will comprise 3 battle ships of about 15,000 tons each, 3 destroyers or submarines of about 350 tons each, and 24 torpedo boats of about 180 tons each. The law reads:

The acquisition and repair of equipment for the navy shall be carried out in accordance with the following rules:

1. Manufactured materials and articles to be provided by domestic industry—pursuant to the law of February 14, 1907, and provisions complementary thereto—and those which that industry is able to supply shall be obtained from it, pursuant to the terms of the respective regulations.

Materials and articles not covered by the preceding paragraph shall be obtained from abroad, but earnest efforts shall be made to establish within the Kingdom the manufacture of the articles most useful and important for the navy.

In the shipbuilding and repair yards belonging to the state there shall never be more shipbuilding than enough to meet the ordinary and permanent needs of the navy; their industrial facilities and their work shall be adjusted to those demands, and steps shall be taken to insure the perfect, prompt, and economical performance of that work, as well as the maintenance of the arsenals and dockyards in constant readiness to render such services in the national defense as may respectively be assigned to them.

AWARDING CONTRACT WORK.

2. In the yards of Ferrol and Cartagena work under state control shall as soon as possible be replaced by a system of contract with one or more industrial corporations domiciled in Spain, governed exclusively by Spanish laws, and subject thereto in all respects. In these contracts shall be contained all specifications of the reserves, guaranties, and requirements as to future pledges which the state may deem expedient. Under this system the said yards shall stand on a footing different from that of the military arsenals; to Ferrol preferably shall be assigned the building of large ships, to Cartagena that of similar vessels, and in framing the contracts for their undertakings a distinction shall be made between new naval work, new work for the fitting up and defense of the yards, and repair work of all kinds.

If in order to provide steady employment for the shops and shipbuilding trades, within the limits laid down in the last paragraph of the preceding rule, it should be deemed expedient to carry out in the said yards orders from private parties, such work may be combined with that of the state, due preference being always given to the public service and interest.

The contracts between the state and industrial corporations shall be based on public competition, reserving to domestic products, labor, and capital, the largest share possible, using such factors in the way of state employees and equipment as may be available, and taking care to secure the most reputable and approved foreign cooperation as the best guaranty of good work.

Should there be no award, after one or more competitions, the Government shall reestablish work under state control in the yards of Ferrol and Cartagena, providing for industrial and technical cooperation associated with the state, within the limits of the credits allowed by law, until such time as it may be feasible to attempt the carrying out of the contract or of the subsidiary industrial cooperation. Work under state control in the said yards shall be confined to the prosecution of work commenced before the passage of this law, to repairs, and to the building of launches for the fishery patrol.

CUSTOMS EXEMPTIONS—IMPROVING GOVERNMENT YARDS.

The general contracts shall be exempt from the stamp tax (derechos reales) and payments to the state, as well as from the industrial tax.

The custom duties payable on dredges, barges, excavating drills, pumps, cranes, devices for submarine work, and transportation equipment (engines, dumping cars, and portable rails), which the contractors may import from abroad for work on dry docks and docks in our arsenals, shall be refunded when upon completion of such work the said equipment shall be exported from Spain.

Artillery, with such appurtenances as screws, mantelets, mountings, and other accessories which the Government may in its contracts agree to have imported from abroad, shall pay customs duties as a matter of form only.

The supervision and inspection of the work shall be so organized that, while the freedom of management and the manufacturing and economic control shall remain as independent as possible, the efficiency and reliability of the services agreed upon with the state may be amply guaranteed.

3. The yards at Cadiz shall be specialized for carrying out under state control new work, and alterations and repairs of artillery, and docking and repair of ships, as well as such new naval shipbuilding as may be essential for the permanent maintenance and efficiency of their working. In order, nevertheless, to encourage the domestic manufacture of artillery, the Government shall have the option of temporarily ceding to the corporation or corporations in charge of the industrial undertakings at Ferrol and Cartagena, or to some similar concern, the artillery shops at Carraca with the necessary storehouses, on terms similar to those prescribed for the yards of Ferrel and Cartagena.

LIFE INSURANCE IN HONGKONG.

COLONIAL GOVERNMENT'S NEW REGULATIONS PROVIDE SAFEGUARDS.

A colonial ordinance relating to life insurance companies has lately come into force in the colony of Hongkong, its provisions being summarized by Vice-Consul-General Stuart J. Fuller in the following report:

This ordinance relates to all sorts of associations formed to carry on the business of life insurance which desire to do so within the limits of the colony including mutual as well as proprietary companies. Under the terms of this regulation all such companies are required to deposit with the registrar of companies securities to be approved by the governor in council to the value of $50,000 Hongkong currency, equivalent to approximately $25,000 United States gold. Existing companies before continuing business are also required to make a similar deposit.

Companies may deposit approved securities to the value of $200,000 Hongkong currency ($100,000 gold), but, if they do not elect to do so they are required to deposit annually, up to the amount of $200,000, an amount equal to the total amount of premiums received by the company on account of policies issued or entered into in Hongkong less 25 per cent, and less also the net amount of losses or claims actually paid on policies entered into or issued in Hongkong. The whole or any part of this latter deposit may be a receipt given by any bank in Hongkong incorporated or regulated by or under any ordinance of the legislature of Hongkong or approved by the governor in council.

Deposits may be withdrawn and others substituted therefor, and the colonial government assumes responsibility for all loss or damage to securities deposited under the provisions of the act in question.

REPORTS AND INSPECTION.

Life insurance companies are required at the expiration of each financial year to submit statements of revenue account and all balance sheets in accordance with the prescribed form. Companies which concurrently with life insurance transact any other kind of insurance or other business are required to make a statement in specified form showing revenue account and balance sheet at the close of each financial year of the company.

Every life insurance company is required at intervals of five years or ten years, according to whether established before or after the commencement of the ordinance, to have an investigation made into its financial condition by an actuary, and to lodge an abstract of the actuary's report in specified form with the registrar of companies.

A further report giving various details in regard to the business is required annually on the prescribed form, and the important points are the average rate of interest at which the life-insurance fund of the company is invested at the close of each year, and also a table of minimum surrender values or a statement of the method pursued in calculating such surrender values, supported by instances of its application to policies of different standing and at different ages. [A copy of the new ordinance may be perused at the Bureau of Manufactures.]

EXPOSITIONS.

INTERNATIONAL DISPLAYS.

GERMANY.

CLASS OF AUTOMOBILES AND MOTOR BOATS EXHIBITED AT BERLIN.

The following report concerning the Berlin automobile and electric motor-boat exposition is furnished by Consul-General A. M. Thackara, of that city.

The International Automobile Exposition which recently closed was divided into two periods: The first, for pleasure and touring cars, extended from December 5 to December 15, and the second, for industrial automobiles and motor boats, from December 19 to December 22, 1907. The exhibits of automobile parts and accessories, which were located in the galleries of the building, remained the same throughout the exposition.

The exposition was held under the auspices of the Imperial German Automobile Club and the German Association of Automobile Manufacturers, Prince Henry of Prussia, the Emperor's brother, being the patron. The honorary exposition committee was composed of leading members of the automobile world of Germany and of foreign countries, including the president of the American Automobile Club. The working committee included representatives of nearly all of the principal German automobile manufacturing concerns and of the allied industries.

The exposition was inaugurated by Prince Henry, one of the most enthusiastic automobilists in Germany, and a great protector of the German automobile industry. For the second time the exposition was held in the beautiful building erected for exhibition purposes in the grounds of the zoological gardens.

CLASSES OF MACHINES EXHIBITED.

According to the official catalogue of the Motor Car Exposition there were 879 distinct exhibits shown by 317 firms, companies, and individual manufacturers. Of the exhibitors 283 were German, 9 French, 6 Belgian, 5 Italian, 4 Austrian, 3 English, 3 American, 3 Swiss, and 1 Russian.

At the exposition for industrial cars and motor boats there were 674 exhibits shown by 263 different firms, companies, etc., 245 of which were German, 7 French, 3 Swiss, 3 American, 2 English, 1 Austrian, 1 Belgian, and 1 Russian.

While in the expositions there was little that was strikingly novel, except, perhaps, in the low-priced cars, the beautiful work which was displayed indicates most clearly that the manufacturers of touring and business cars are reaching a standard of perfection upon which it will be difficult to improve.

There were to be seen two, three, four, six, and even eight-cylinder motors with vertical water-cooled cylinders with mechanically operated inlet and outlet valves, which on practically all of the well-known motor cars were placed on both sides of the cylinders, in a few cases on one side, and exceptionally on top. The double V-shaped and air-cooled cylinders were only to be seen on the smallest and cheapest cars. With the exception of an American machine on which planetary transmission was used, all the larger cars had the sliding gear transmission, which appears to have stood the tests of ordinary practical work, as well as the strain of the great automobile races. It has therefore been adopted as a standard of construction by most of the European manufacturers. Both the bevel gear and chain drives were to be seen, with a marked preference for the former. A number of carburetters for using benzol, alcohol, etc., were exhibited, indicating that great efforts are being made to find a substitute for the more expensive benzine.

NEW ATTACHMENTS AND INVENTIONS.

There were also new types of electric sparking attachments on the principle of a magnetic make and break in the candle. This system dispenses with the pull-bars, cams, etc., and seems to give an equally good spark. The methods of ignition were about equally divided between the make-and-break and the jump spark. Many of the larger cars had the two ignitions, in which cases the high tension magnets with jump spark and the battery ignition, which can be worked independently, were used.

Ball bearings were used throughout on all of the best makes and pressed steel frames were universal.

Honeycomb coolers were mostly to be seen, although the flange-tube radiators were exhibited in the cheaper cars. Positive oil pumps for lubricating purposes have been almost universally adopted in the finer motor cars, but there were still drop-oilers operated by the pressure of the exhaust from the motor, mostly on the lower-priced vehicles. Revolving pumps for water circulation, with which practically every car was equipped, were driven by spur gears instead of chains, belts, or friction wheels.

There were two patented systems exhibited, which are intended to save the automobilist from the annoyance resulting from a punctured tire. The principle in each was to fill the inside of the tire with a gelatinous composition which in its consistency resembles soft rubber. It is forced into the tire under pressure, and it is claimed that owing to its nature, it will neither exude when the tire is punctured nor will the resiliency be affected. The composition is sold under a guaranty that it possesses all the qualities claimed for it and that it is not influenced either by the temperature or by changes in the weather.

LOW-PRICED CARS—AUTOMOBILE BODIES—INDUSTRIAL MACHINES.

The smaller and low-priced cars at the exposition attracted much attention. Many of them were of entirely new types, exhibited for the first time. The prices ranged from 2,500 marks ($595) to 10,000 marks ($2,380), for cars varying from 6 to 3 horse power. A number of firms had one-cylinder motors, but those of two and four cylinders were most appreciated. The exhibition proved that good, light touring cars could be purchased for from 6,000 to 12,000 marks ($1,428 to $2,856), according to horsepower, number of cylinders, number of changes of speed, etc. It was the opinion of most experts that the cars offered for these prices were of better value for the money than those which could be bought for from 2,500 to 5,000 marks ($595 to $1,190).

As a rule in Germany, bodies of automobiles are manufactured by carriage builders and sold separately, thus enabling the customer to make his own selection of the style and make of the " carrosserie." The exposition offered a splendid display of luxuriously upholstered and finely finished bodies, principally of the Landaulet and Limousine types. The tonneau, or open body, was seldom seen except on the lowest-priced cars. There were many exhibits of the so-called American summer hood, one of which, made by a firm in Gera, was so arranged as to be easily opened or closed by the chauffeur when the car is going at a high speed.

The great importance which the manufacture of motor vehicles for industrial and business purposes has attained was clearly indicated by the many cars for other than touring purposes which were exhibited during the second period of the exposition. There were to be seen motor-omnibuses, street cars, heavy trucks for carrying coal, iron, beer, etc., three and four wheeled delivery wagons in all sizes, police vans, fire apparatus, vehicles for military use, ambulances, taxameter cabs, etc. Automobile manufacturers have found it to their interests to supply the want which has been created by the rapidly increasing substitution of motor power for the propulsion of vehicles for which animals were formerly used. The demand for motor vehicles for industrial and business purposes will still continue to increase, so that in all probability this branch will prove to be the bone and sinew of the automobile industry.

ELECTRIC CARS AND MOTOR BOATS.

There were also exhibited many electric vehicles of various types, including one of the mixed system; that is, an electrically driven car with a four-cylinder benzine motor to furnish the power to a dynamo for generating the current. The Edison new storage battery was exhibited by a German company.

Cars driven entirely by electricity, owing to their simplicity of construction and absence of noise in running, are making slow but constant progress. In the exposition could be seen electric cars for almost every purpose, from a luxuriously appointed touring car to the lightest delivery wagon. Until a practical accumulator without too much bulk is made commercially possible the use of electric vehicles will necessarily be limited to districts where easy access may be had to power stations for recharging. Cars were exhibited which were guaranteed to run, at a moderate speed, a distance of 100 kilometers (62 miles) with a single charging of the batteries.

The motor-boat display, while not as extensive as at the Kiel Exposition last summer, was much larger and more complete than during the Berlin Exposition of 1906. It indicated most clearly the development which has taken place in the German motor-boat industry during the past few years. There were exhibited magnificent pleasure boats with inclosed apartments finished in mahogany, some of sufficient size and power to cruise at sea; boats for harbor traffic and for police purposes, motor yachts, smaller cabin and saloon boats for use on inland rivers and lakes, etc.

There was only one boat of American manufacture exhibited, a pressed-steel launch 23 feet long, with a 3-cylinder ferro motor of 16 to 20 horsepower, guaranteed to run 16¾ miles an hour in smooth water. The absence of American motor boats is greatly to be regretted, for, as stated before in reports from this consulate-general, in this section of the country there is every reason to believe that there would be a good opening for the sale of the excellent, well-built, handy, and reasonable-priced touring craft which have attained such great success in the United States.

SALES OF EXHIBITED VEHICLES—NEXT EXPOSITION.

On the whole, the Berlin Exposition of 1907 may be considered to have been a great success. The attendance during the first period broke all the records of former expositions, but it fell off during the second period—that devoted to the display of industrial cars and motor boats. From a business point of view the largest sales were made of the medium-priced vehicles. On one of the exhibits the placards indicated that 178 sales of duplicates had been made. It was a four-cylinder 12 to 16 horsepower, well-constructed touring car, tonneau body, with horn and petroleum lamps, ball bearings throughout; price, 8,500 marks ($2,023).

At a meeting of the Association of German Automobile Manufacturers, held during the exposition, a resolution was passed, with but 3 dissenting votes, not to hold an exposition under the auspices of the association until September, 1909, and to fine any member 10,000 marks ($2,380) who would take part in any other exposition before the date mentioned.

EXHIBITS OF AUTOMOBILE PARTS AND MACHINE TOOLS.

The classification by nationalities did not indicate accurately the countries of origin of the various exhibits, as machinery, automobile parts, and accessories of foreign manufacture were displayed by German firms and companies which are the agents for the sale of such products in Germany. For instance, while there were only three distinct American exhibitors, one Berlin firm, which carries an extensive line of American machine tools, exhibited a fine collection of American lathes, turret machines, drill presses, milling machines, etc., for making the various parts of motor cars. There were several other firms also which exhibited tools of American manufacture. As the machines were shown in operation, they made an attractive display.

It would be well for our American machine-tool manufacturers to realize the great progress which has been made by the Germans during the past five years. While it is true there are machines made in this country which follow closely American lines, there are others which show great originality of design and which for their efficiency, careful construction, and comparatively low prices may become formidable competitors of American tools.

At the exposition there were shown electric and steam driven tools of German manufacture for boring, shaping, grinding, and polishing; machines for sharpening saws and milling tools; drilling machines of various sizes; automatic turret lathes for heavy and light work, for making nuts, screws, and bolts, etc.; special machines for turning and grinding crank arms for motors, for boring cylinders, for planing and milling gears.

AUTOMOBILE INDUSTRY AIDED BY THE GOVERNMENT.

The interest which is shown by the Government in the various industries of the German Empire is evidenced in its endeavors to ascertain the present condition of the automobile trade and the most efficacious measures to adopt through which governmental aid may be rendered to increase the outlets for the sale of motor cars and accessories of German manufacture.

A meeting was recently held at the Imperial Ministry of the Interior, at which were present representatives of the Government, of the Imperial Automobile Club, and of the Middle German Automobile Manufacturers' Association and the principal officers of the leading German motor-car manufacturing companies. A series of questions were drawn up which are to be sent for replies not only to the automobile manufacturers of Germany, but to the producers in the allied industries, rubber, carriage works, benzine, etc., and to furnishers of raw materials. The nature of the inquiries has not been made public, but the information asked for is embodied in three groups of questions covering the years 1901, 1903, and 1906, in order that the development of the motor-car industry up to and including the latter period may be definitely ascertained, as it is assumed that the changes made in 1907 are not important.

HOTEL KEEPERS' EXHIBITION AT NUREMBERG.

EXPOSITION OF FOOD SUPPLIES, CULINARY APPLIANCES, ETC.

Announcement has already been made in Consular and Trade Reports of a forthcoming German exposition under the management of a hotel keepers' association, concerning which Consul H. W. Harris, of Nuremberg, sends the following additional details:

From September 19 to 30 an exposition will be held at Nuremberg in the interest of culinary art, general food products, army sustenance and of meat shop, confectionery, bakery, hotel, and innkeepers' appliances, etc. The exposition is to commemorate the twenty-fifth anniversary of the Innkeepers' Association of Nuremberg and is under the protectorate of Prince Alfonso of Bavaria. It will be housed chiefly in a large permanent exposition building in the city having, it is stated, more than 10,000 square yards of floor space.

Sixteen separate groups of exhibits are announced. Groups 1 and 2 include food products of all kinds, such as dried and preserved fruits, meat and dairy products, edible oils, sauces, spices, alcoholic and nonalcoholic beverages, etc. Groups 3 and 4 embrace appliances, implements, and machinery for hotels, restaurants, kitchens, bakeries, meat shops, dairies, confectioneries, etc. Other groups will include tableware of all kinds, billiards and other games, automatic musical instruments, sanitary appliances, table and bed linen, furniture, wooden ware, kitchen and hotel elevators, scientific literature pertinent to the general subject-matter of the exposition, advertising specialties, table decorations, menus, etc.

RATES FOR SPACE—OPPORTUNITY FOR AMERICAN ARTICLES.

The management announces the charge for floor space for 1 square meter (1¼ square yards as 25 marks ($5.95), on up to 90 marks

($21.42) for 4 square meters, each additional square meter to cost 15 marks ($3.57). Exhibitors taking 20 square meters or more are to pay at the rate of 15 marks ($3.57) per square meter. Applications for space are to be made not later than August 1 on blanks furnished by the management.

Nuremberg and the adjoining city of Fürth have a population of nearly 400,000 people and form the chief manufacturing and exporting center of Bavaria. Experience has shown that expositions in Germany have a large attendance and are regarded as valuable advertising agencies. This consulate is of the opinion that the Nuremberg exposition offers an excellent opportunity for well-selected exhibits of certain food products of the United States now sold abroad and for novelties and other articles falling under some of the groups. The services of intelligent American students coming abroad could doubtless be secured to look after such exhibits. A study of the exposition itself should be of considerable educational value.

Correspondence should be addressed to Bureau Kochkunst Ausstellung, Nuremberg, Germany. This consulate will gladly render American exhibitors such services as it can without neglect of its other duties.

ITALY.

WORLD EXPOSITION WILL BE HELD JOINTLY AT ROME AND TURIN.

Baron Edmondo Mayor des Planches, Italian ambassador at Washington, furnishes, through the Department of State, the following note in relation to an international exposition to be held at Rome and Turin three years hence in commemoration of the fiftieth anniversary of the proclamation of the Kingdom of Italy:

Rome and Turin, with the cooperation of all the Italian provinces, are making preparations for a solemn celebration of the fiftieth anniversary of the proclamation of the Kingdom of Italy.

As a part thereof, the two cities have announced an international exposition which will be held in 1911 under the auspices of His Majesty the King, at Rome in its artistic and historico-archæological part, and at Turin in the part which includes the products of industry and labor in their various manifestations.

The Government of Italy invites the participation of the United States in the International Competition of Industry and Labor at Turin and of Art and History at Rome.

His excellency the minister of foreign affairs lastly suggests that it would undoubtedly be expedient, in order to facilitate the participation, if it be decided to take part, that steps be taken here to appoint a commissioner-general who might, at the proper time, communicate directly with the exposition's committees on organization.

FIREPROOF EXPOSITION MATERIALS.

CONTEST TO BE HELD AT TURIN FOR NONINFLAMMABLE BUILDINGS.

Consul Albert H. Michelson, of Turin, reports that, in view of the damages caused by fire to previous international expositions, the Italian executive committee of the International Exposition to be held in Turin in 1911 has instituted an international competition to test the relative merits of various materials and processes, whereby the timber and textile tissues to be used in the construction of the buildings of the said exposition may be rendered noninflammable. The consul describes the plans:

The fireproofing materials in question will be divided into those for the protection of timber and those for the protection of tissues. For timber a speedy and cheap method of superficial coating will be preferred, although other processes will be given every consideration. The timber treated must not be rendered unfit for polychromic decoration of any sort. Tissues must be treated in such a way as to impair least their strength, elasticity, and coloring.

Materials, whether destined for the protection of timber or tissues, must be furnished, free of all charges, to the "Direzione del Laboratorio di Chimica Docimastica del Regio Politecnico di Torino," before September of this year, and must be supplied in sufficient quantities to protect at least 50 square meters (538 square feet) of timber or tissue, as the case may be.

REQUIREMENTS OF THE COMPETITION.

The executive committee states that it reserves the right to purchase such fireproofing materials as shall have been judged worthy of an award, in quantities sufficient for the protection of all exposition buildings. Competitors are therefore required to forward with their samples a statement setting forth the amount of material they will engage themselves to supply, and the price thereof, c. i. f. Turin. They should also furnish, for purposes of identification, an exact description of their material, together with detailed directions regarding the manner and method in which the material is to be tested. The consulate suggests that although such directions should be in English for reasons of complete accuracy it might be well to furnish translations thereto either in French or Italian.

The jury appointed by the executive committee will judge promptly, in a technical, practical, and economic light, the samples submitted to it, and will make such tests as it may deem proper. Competitors are at liberty to attend these tests, either personally or by proxy, but can not appeal from any decision that the jury reaches.

The awards which the jury itself has at its disposal consist of two gold and two silver medals (the first and second prizes for each of the two classes of materials mentioned), and $800 in cash, to be distributed among such competitors as the jury may deem especially worthy of reward on account of research work performed by them, or on account of noteworthy results produced.

RUSSIA.

INTERNATIONAL BUILDING ARTISTICAL EXHIBITION AT ST. PETERSBURG.

Vice Consul-General John Mueller calls attention to an international exposition for building materials and industry relating to the building line which will be held in St. Petersburg under the auspices of the Society of Civil Engineers, opening May 28 and closing October 28, 1908. Mr. Mueller adds the following particulars:

This exposition is indorsed by the Russian ministry of commerce and trade, the ministry of the imperial court, and the department for the institutions of the Empress Marie, and from information received it promises to be of great commercial and industrial importance to all countries participating. The territory assigned to the exposition is located on the banks of the river Neva in a very picturesque part of one of the islands belonging to the suburbs of St. Petersburg, where one large permanent stone building is already erected. The attention of American firms engaged in the building line is invited to this opportunity to display their materials and articles, as in this special line the United States is in advance of other countries, while Russia offers an immense field for improvements and the most extensive market for American goods in this industry. The usual arrangements for free entry for exposition goods have been made with the imperial customhouse and a St. Petersburg firm has been appointed as commissioners for the American department, to whom applications for space can be addressed. Copies of the rules, form of application in the English language, and a map showing the exposition grounds are forwarded herewith. [These and the address of the commissioners for the American department may be obtained for examination by American firms from the Bureau of Manufactures.]

NORWAY.

IMPORTANCE OF AMERICAN REPRESENTATION AT MOTOR EXPOSITION.

Consul Felix S. S. Johnson, of Bergen, calls the attention of American manufacturers of motor boats and engines to the Norwegian exhibition of such mechanisms to be held this coming summer at Trondhjem, concerning which he writes:

Applications for space should now be filed. It is of the greatest importance that the United States should take part in this exposition, as it will be the means of opening up a new market for American goods in Norway. The fishing fleet on the western coast of Norway, consisting of many hundred boats, is gradually being fitted up with motor engines. It is only at these expositions that fishermen and others can see the working of the motor boats and the advantage of the one boat over the other.

At the exhibition held in this city last year, only two American firms were represented, whereas other foreign nations had a full exhibit. In view of the great advantage to be derived by exhibiting, I strongly urge all motor manufacturers to take part at this exhibition; the expense may be large, but the results will more than repay this outlay.

FRANCE.

AGRICULTURAL MOTOR EXHIBITION TO BE HELD AT BOURGES IN JUNE.

France is largely an agricultural country, and the question of the moment among agricultural societies is the adaptation of the motor to agricultural purposes. With this object in view, an "Exposition Internationale de l'Automobile Agricole" will, for the first time, take place in June at Bourges (central France). The programme of the exposition is a comprehensive one and worth the attention of all interested in the supply of every kind of agricultural machinery and farming implements. The address of the secretary of the exposition is 24 rue Notre Dame, Bourges.

PARAGUAY.

PROMOTION OF MARKET GARDENING—EXCELLENT SALES OPPORTUNITIES.

Consul Edward J. Norton sends the information that an agricultural exposition will be held in Asuncion on May 14, 15, and 16 under the direction of the National Agricultural Society of Paraguay, the plans being as follows:

The sole object of this exposition is to show the opportunities awaiting the cultivation of early fruits and vegetables for export. As regards season, soil, and climate, Paraguay bears practically the same relation to Montevideo and Buenos Aires as does Florida to the great city markets of the Northern States.

Based upon these natural advantages, the Agricultural Society has made a careful study of the markets of Rio de la Plata and has arrived at the conclusion that if the Paraguayan people can be aroused to an appreciation of the opportunities awaiting them, a new and important industry may be created.

Paraguay now ships tomatoes, oranges, pineapples, and bananas to the markets of the Rio de la Plata but these products are not selected, packed, and handled en route with sufficient care, wherefore the profits have been small, and little interest has been manifested in the extension of the industry.

PLANS FOR EXTENDING MARKETS—AMERICAN CATALOGUES INVITED.

Growers will be encouraged and assisted in improving the quality of their garden products and instructed in the selection of produce for export and the proper methods of packing, as well as impressed with the necessity of cultivating a wider range of vegetables and fruits, particularly potatoes, squash, asparagus, radishes, beets, onions, grapes, watermelons, cantaloupes, strawberries, and figs, all of which it is reported, will find ready sale in the Southern markets.

Fast steamers on the down trip now make the journey to Buenos Aires in three days, and to Montevideo in four days. While the question of transportation is simple, the problem of marketing products requires careful and thorough study, but the society hopes to overcome difficulties through the cooperation of the Government with the growers.

It is suggested that seedsmen and nurserymen of the United States forward catalogues (several sets) and pamphlets, in Spanish, for distribution during the exposition. If these are forwarded to this consulate, care will be taken to see that the printed matter is properly handled. Posters to brighten the exposition building will be welcomed. Displays of seeds, even on a small scale, or the sending of a few attractive specimens of prize vegetables, such as one notes at state fairs in the United States, would certainly be a profitable advertisement for the exhibitor.

Catalogues from manufacturers of mill machinery for the making of baskets, crates and orange boxes are also requested.

BRIQUETTES.

MODERN FUEL PRODUCTS.

FRANCE.

THEIR USE AS LOCOMOTIVE FUEL ON RAILWAYS OF THE REPUBLIC.

Consul-General Frank H. Mason, of Paris, furnishes the following report on the fuel consumption of four of the great railway systems of France, namely, the Northern, the Eastern, the Paris-Orleans, and the state railways, with special reference to the use of briquettes:

The Northern Railway of France operates a network of lines 2,354 miles in length and traversing the territory from Paris northward to the English Channel and the frontier of Belgium, including the coal fields of the Pas-de-Calais and the Nord. According to the statement of the chief engineer briquettes constitute from 12 to 15 per cent of the entire locomotive fuel supply used by the company. They are cubical in form, weigh about 10 kilos (22.046 pounds) each, and contain from 18 to 22 per cent of volatile matter. They are used for kindling the fire and getting up steam before the engine goes upon duty, and during the run when, by reason of a heavy train, a strong ascending grade, or the necessity of high speed, it is required that the locomotive shall put forth its maximum effort. The other fuel used is coal or slack of ordinary quality.

COST AND TESTING OF FUEL.

The cost of briquettes on the Northern Railway varies slightly with the market price of coal, but has ranged during the past three years from 15.75 to 22 francs ($3.03 to $4.25) per metric ton of 2204.6 pounds. The conditions imposed upon the manufacturers who supply briquettes to the company are as follows:

First, that the proportion of ash shall not exceed 8 per cent, or if it does a deduction of 10 cents per ton is made for every 1 per cent excess of ash above the standard, 8 per cent.

Second, that the coal employed shall be of a coking quality; that is, there shall be such a combination—either natural or artificial—of fat and lean elements as to produce a coal susceptible of being coked.

Third, the standard maximum of humidity is 5 per cent at a temperature of 100°.

Fourth, cohesion must not be less than 50 per cent. This is measured by the apparatus employed by the French navy, which consists of a rotary sheet-iron cylinder, 39 inches long and 32 inches in diameter, hung on an axle, and having three interior flanges about 10 inches high. For the test, 50 kilos of briquettes are broken into pieces, weighing about 1 pound each. These are put inside the cylinder, which is then revolved at a rate of 25 turns per minute. After having made 50 revolutions the cylinder is opened and the contents poured upon a horizontal grate with square holes, 3 centimeters (1¼ inch) long and broad. The pieces which do not fall through the grate are then weighed, and they should constitute not less than 50 per cent of the whole amount submitted to the test. If the débris that falls through the grate exceeds one half the original material the cohesiveness of the briquettes is proved to be below the prescribed standard.

THE EASTERN RAILWAY.

This company owns and operates a network of lines 3,068 miles in length, and extending from Paris and eastward to the frontier of Belgium, Germany, and Switzerland.

Fifteen per cent of all locomotive fuel used by the Eastern Railway Company consists of briquettes made of pulverized coal held together by a matrix of 8 per cent of "brai" or coal tar derived from gas manufacture or coke production with recovery of by-products. The fine coal used is carefully composed of such proportions of fat and lean varieties as to give from 17 to 19 per cent of volatile matter and the requisite degree of firmness, cohesion, and percentage of ash. Anthracite dust is used to some extent in combination with fat bituminous varieties, so proportioned that the ash residue shall not exceed 8 or 9 per cent. Care is also taken to secure cinders which are but slightly fusible and do not form the refractory "clinkers" which are so difficult to manage in a locomotive fire box.

The briquettes used by the Eastern Railway Company are made in presses of two types, viz, the Bietrix, in which the mold is closed, and the Bourriez press, in which the mold opens with each revolution. The first apparatus turns out briquettes flat in form, with rounded edges and weighing 5 kilos, or about 10 pounds each, though for certain purposes they are made in smaller sizes, from 3 kilos upward.

The price varies with the current market value of coal and is reckoned at 5 to 6 francs ($0.96 to $1.15) per ton above the cost of coal. The conditions stipulated in the purchase of briquettes for the use of the company are that the coal before admixture of the matrix shall be susceptible of coking; that the briquettes shall be firm, well made, burn freely without clogging the tubes of the boiler, and shall contain not to exceed 5 per cent of moisture or 8 to 9 per cent of ash. Excess of humidity or ash residue above these limits is charged for in a proportionate reduction in the price paid for the briquettes showing such defects.

Briquettes are used on all the locomotives of the Eastern Railway Company for kindling the fire, getting up steam after the engine has been off duty, and in all cases where, by reason of a heavy grade, load, or speed, the maximum effort of traction is required. The relative proportions of briquettes and coal used vary with the season, weather, and nature of service required, the harder the service the greater the percentage of briquettes used, and this proportion varies from 12 to 30 per cent, with a mean average of 15 per cent throughout the year.

THE PARIS-ORLEANS SYSTEM.

The Paris-Orleans Railway Company owns and operates 4,467 miles of lines, extending from Paris southwesterly to Toulouse and Bordeaux, and one line westward, via Tours and Nantes, to Brest, on the extreme western coast of France. Little or no coal is mined on the territory traversed by the lines of this company. It uses annually 285,000 tons of briquettes, which form 28 per cent of its entire locomotive fuel supply.

The briquettes used by the Orleans company are of the ordinary cubical shape, but are made in several sizes, from 5 to 10 kilos in weight, and cost, according to the varying price of coal, 20 to 28 francs ($3.86 to $5.40) per metric ton.

The conditions imposed by the company upon contractors who supply briquettes for locomotive fuel are quite elaborately given in the "Cahier" which is furnished as an exhibit with this report [filed for public reference at the Bureau of Manufactures]. They include, among others, the following stipulations: That an agent of the company may at any time inspect and observe the manufacture of briquettes intended for its use; that tests shall be made upon demand to demonstrate the quality of the briquettes; that the company may specify the coal mines from which the material for its briquettes shall be derived; that the coal shall be of recent extraction, as free as possible from sulphur; that it shall not produce "clinkers" to the injury of grates or prevention of steaming; that they shall burn with a live, clear flame and produce only a light-gray smoke; shall have a density of from 1.13 to 1.21 and a cohesion of not less than 50, or if below that standard, to be subject to a proportionate discount in price.

THE STATE RAILWAY.

The State Railway system includes a main line from Paris to Bordeaux, with a network of branches extending to Angers, Nantes, Poitiers, La Rochelle, Angoulême, and other points, a total length of 2,916 kilometers, or 1,811 miles. The total train mileage of the system in 1906 was 10,854,007 miles, of which freight trains are credited with 3,301,278, and passenger and mixed trains with 7,552,729 miles of service. The authorities of this railway own no coal mines and therefore buy all their fuel, which includes 120,000 tons of briquettes, or 40 per cent of its entire fuel supply for use in locomotives. The supply of briquettes has been hitherto received under a three-year contract made in October, 1904, which provided for the delivery free of briquettes, in cars furnished by the railway, at any of its stations, for a price between 18.75 and 19.70 francs ($3.65 and $3.80) per metric ton.

The "Cahier des Charges," which is sent as an exhibit with this report [filed at Bureau of Manufactures], shows in elaborate detail the conditions which are imposed upon contractors who supply briquettes for the State Railways. They are similar to those prescribed by the other companies already described, and require that the briquettes shall be composed of coal of a quality that can be coked, free from sulphur, schists, pyrites, or other impurities; that they shall be hard and sonorous with a cohesion of fifty-five one-hundredths; with not more than 10 per cent of ash residue; volatile matter not less than 16 nor more than 22 per cent, and as far as possible free from humidity.

INSPECTION OF FUEL—RÉSUMÉ OF CONDITIONS.

Provision is made that the briquettes may be inspected during or after manufacture by an agent of the railroad, and that before delivery each shipment of 400 tons shall be minutely inspected and analyzed. The tests for cohesion are made by the marine apparatus already described in this report. The "Cahier" shows the discounts from the net contract price which shall be made for all delinquencies or defects in cohesion, purity, ash residue, or other essential quality below the prescribed standard.

From the foregoing synopsis of the regulations prevailing on four of the railway systems of France it will be seen that briquettes, made of pulverized coal and mineral pitch, form the choicest and most expensive fuel used for firing locomotives. The extent of their use is governed by the service demanded of the engine under varying conditions of season, weather, speed of trains, and grade of track to be overcome—the more severe the service the larger the proportion of briquettes used for firing the locomotive. The average percentage employed varies from 12 per cent of the entire fuel supply on the Northern Railway to 40 per cent on the lines owned and operated by the State.

GERMANY.

DESCRIPTION OF METHODS FOR CONVERTING PEAT INTO FUEL.

Consul Southard P. Warner, of Leipzig, reports that a German engineer, writing upon the subject of making use of peat as fuel, says:

Many attempts, unfortunately accompanied with negative results, have hitherto been made to utilize peat beds by converting peat into coal. The cost of producing peat briquettes and peat coal were out of all proportion to the price of common fuel. The structure also of the peat coal derived in this manner resembled more that of easily crumbling coke than of hard coal. The chief reason for all previous failures may be attributed to the fact that the ordinary drying processes have not removed a sufficient portion of the water. The vegetable cells holding the water yield up their contents only if they are burst. Various methods have been employed for bursting the cell tissue, as for instance, by grinding the peat in specially constructed mills, by the application of steam, and also electrolytically. These processes have proved to be too expensive.

A recent manner of production has the merit of less expense. It consists essentially in bursting the vegetable cells by an appropriate treatment of the peat in a vacuum. A vacuum adapted to practical purposes may be attained by the employment of two kettles connected by a pipe. Kettle 1 is heated to 28° C. The vegetable cells of peat burst at this vacuum temperature. On opening the cock of the pipe to kettle 2 half of the vacuum—supposing the contents of both to be the same—passes from kettle 1 into kettle 2, and half of the air in kettle 2 pours into kettle 1. The peat contained in kettle 2 is now treated in the same manner, so that half of the vacuum may constantly be turned to practical account. In the meantime, the peat in kettle 1 can be removed and transported to a press, where most of the moisture is eliminated. Finally, it can be desiccated in storehouses, and in a short time the water contents have been reduced to 10 per cent.

BY-PRODUCTS—COST OF PRODUCTION.

To produce the necessary motive power for the plant the peat is gasified in retorts by a patented process. An unusual quantity of gas, ammonia, tar, peat oil, etc., is thus extracted. The gas so derived may best be applied for heating the retorts. Nevertheless, there remains about 60 or 70 per cent of gas that can be utilized for the necessary gas engines or for producing peat coal in the retorts. The latter process consists of heating peat to about 300° C. in retorts entirely inclosed in material easily penetrated by heat. As soon as the proper temperature has been obtained the oven is closed air-tight and the heat shut off. The mass remains in this state some hours. A large quantity of gas has developed in the retorts, and not being able to escape, it exercises a great pressure, so that a portion is reduced to paraffine, which is pressed back into the mass. The peat is exposed to such a high pressure that it forms a compact body resembling coal, as opposed to the hitherto soft products.

The peat now can be broken up or ground and then formed into briquettes in retorts by a cold process. This method yields a coal possessing 6,500 to 7,200 calories of heating power, which burns without the development of smoke or bad odors and leaves almost no ashes. The cost of installing a complete plant producing 30 to 50 tons of coal and coke per day is about $14,600, with an additional $9,730 essential for dredges, buildings, and gas reservoirs. One ton of desiccated peat will produce with the vacuum process about 7 hundredweight of coke, about 55 pounds of ammonia salt, about 132 pounds of tar and peat oil, varying with the treatment of the peat, and about 654 cubic yards of gas. If the gas be mixed with the gas first obtained in the retort process it furnishes a very good heating and motive power; 6.5 or 7.8 cubic yards of wet peat are necessary for yielding a ton of peat capable of treatment. One may calculate the price of dry peat at about 73 cents per cubic meter (1.3 cubic yards). One ton of peat produces about 13 hundredweight of coal, besides some peat oil and gas. A plant of this nature would require about 12 to 15 men for day and night shifts.

PROFITS AND FIELD OF USEFULNESS.

By combining the three processes described, very cheap manufacture is possible, allowing of a very high profit. The power consumption of the machinery is normal. The peat beds also contain other economic treasures. It is well known that Germany, and, in fact, all European states, expend large sums annually for fertilizers. Frequently the cost of transportation exceeds the purchase price proper. Peat is to be found in almost all districts, and sufficient ammonia for supplying the requirements of the respective districts can be obtained from this material. It is very probable also that this fertilizer has better qualities than, for instance, potash. In addition, a coal can be produced that is particularly advantageous for nautical purposes, the more so as smokeless fuel is of inestimable value to the navy. Its employment on commercial steamers would free passengers from the smoke nuisance.

Still higher results could be attained by using peat gas for producing electricity, which could then be conducted to the point of application by means of wires. The owners of territory in East Germany could cultivate their fields with electrically-driven implements; the employment of electricity for propelling railways would also be facilitated. Electric heating and lighting would rapidly gain ground. In fact, this new material could give rise to immeasurable progress in trade and industry. [The addresses of German firms engaged in the manufacture of machines for making peat briquettes may be obtained from the Bureau of Manufactures.]

BELGIUM.

FORM PORTION OF FUEL OF GOVERNMENT RAILWAYS.

Consul-General Ethelbert Watts, of Brussels, makes the following report on manufacture and use of briquettes in Belgium:

According to the latest official statistics concerning briquetted fuel in Belgium for the year 1906 there were 48 plants engaged in the manufacture of various kinds of briquettes. Thirty-four of these plants were in the province of Hainaut, with a total of 74 presses, employing 1,265 workmen; 1,324,390 tons of coal were consumed to produce 1,456,840 tons of briquettes, valued at $5,376,530, price per ton being $3.69. In the province of Liege there were 9 plants with 17 presses, employing 160 workmen; 256,980 tons of coal were consumed to produce 279,210 tons of briquettes, valued at $980,025, price per ton being $3.51. There were 5 plants in the province of Namur, with 16 presses, employing 113 workmen, and 125,340 tons of coal were consumed to produce 151,040 tons of briquettes, valued at $516,195; the price per ton was $3.43. The foregoing are average prices given for briquettes f. o. b. at works.

The heating value of briquettes depends entirely upon their component parts and the density of the bricks. Briquettes of 90 per cent coal mixed with tar or pitch have a heating power about 10 per cent greater than the coal from which they are made. The caloric value per briquette is estimated at 7,500 calories, or in English thermal units 30,000.

The following statement is given by the Belgian state railroad department, which operates 90 per cent of the railways in the kingdom: The consumption of briquettes and coal is about 1,160 tons of briquettes and 4,400 tons of coal per day on the Belgian Government railroads. Of briquettes known as Type I, 350 tons are used, and of briquettes known as Type II, 810 tons. In addition to this 90 tons English nut coal, replacing briquettes, are used for locomotives.

MAKE-UP AND PRICES.

The briquettes are of a rectangular shape, the weight varying according to the contractor from 3 to 7 kilos (6.6 to 15.4 pounds).

The following prices per ton of 1,000 kilos (2,204 pounds) were paid by the railroad department in September, 1907: Briquettes, Type I, 21 francs ($4.05); Type II, 23 francs ($4.44); English nut coal, 19.75 francs ($3.81).

Common requirements for the composition of the two types of briquettes used for locomotives are as follows: The mineral pitch or coal tar must be dry or semibituminous. The briquettes must not contain more than 1 per cent of water, 1 per cent of cinders, and have a maximum of 10 per cent of coal tar. They must be hard and should maintain their hardness at a temperature of 50° centigrade.

The coal used for the manufacture of briquettes, Type I, must be semibituminous, or at least one-fourth bituminous, with 12 per cent volatile matter, and recently mined. There must not be more than 4 per cent of water, nor more than 8 per cent of cinders.

For Type II the coal must be semibituminous, the amount of water not more than 4 per cent, the maximum of cinders 8 per cent, and the volatile matter not less than 15½ per cent nor above 18 per cent.

The railroads purchase their fuel and all other materials by contract from the lowest bidders. Forwarded herewith are copies of specifications for the purchase of fuel supplied by the Government state railroads.

SWITZERLAND.

IMPORTATION AND USE ON SWISS RAILWAYS.

Vice-Consul Leo J. Frankenthal, of Berne, states that as Switzerland posseses no coal mines all the coal used in the country must be imported. He gives the importation of coal and briquettes in 1906 as follows:

From—	Coal.	Briquettes.	From—	Coal.	Briquettes.
	Metric tons.[a]	*Metric tons.*[a]		*Metric tons.*[a]	*Metric tons.*[a]
Germany	1,465,510	344,750	Austria	12,690	1,290
France	236,460	81,160	Netherlands	1,490	230
Belgium	93,950	18,250			
England	23,620	45	Total	1,833,720	445,725

[a] 1 metric ton=1,000 kilos=2,204.6 pounds.

These figures include the quantities used on the railways. In 1907 the Swiss Federal Railways used 340,000 metric tons of briquettes and 180,000 metric tons of coal, the briquettes being mainly from the Ruhr and the coal mostly from the Saar districts, in Germany. The regulation briquette for use on locomotives weighs 10 kilos, but some of lighter weight, 3 and 6 kilos, are used. They have the form of a rough, oblong block, and no particular dimensions are prescribed. Specifications governing the purchase of briquettes for the Federal Railways can not be obtained for the reason that private contracts are made with the coal syndicate (Kohlenverband) at Mühlheim and with the Royal Direction of Mines (Königl. Bergwerksdirektion) at Saarbrücken, Germany. The prices do not appear in the railroad reports. Public bids are not asked. The present wholesale market price of Saar coal is $5.56 to $5.75, and of Ruhr briquettes, $6.85 per metric ton, delivered at the Swiss-German boundary.

The briquettes, although more expensive than coal, require less storage space, retain their original good condition for a longer period, besides furnishing power in a concentrated form. They are used mainly for fast trains, while the coal is burned on freight locomotives. Well-made briquettes should break into several large pieces from the blow of a hammer, but should not crumble.

MEXICO.

EXTENSIVE PEAT DEPOSITS AND POSSIBLE UTILIZATION.

Consul-General A. L. M. Gottschalk reports that for some years past the presence of peat bogs at certain places near Mexico City, notably near Xochimilco, was a well-known fact, but a few abortive attempts at forming companies for their development gave no results. The consul-general writes as follows of present development plans:

The problem was an interesting one, as the capital city, like many municipalities in Mexico, has for many years past been depending for its fuel supply upon the neighboring woods, with the result that there has been at the hands of woodcutters and charcoal burners a very unnecessary deforestation of woodland, which Baron Humboldt (in 1828) described as very luxuriant and which to-day is covered with a very inferior "second growth" of trees.

It is now announced that a company [address on record at Bureau of Manufactures] formed in New York in 1907 and exploiting a patent for briquetting peat, the discovery of a United States consul, is about to establish in Mexico a 2,500-ton plant.

It is expected that the peculiar qualities of peat as a fuel, its smokelessness, its producing no clinker, its freedom from any of the sulphur products of combustion, joined to the fact that its ash has fertilizing qualities, will all tend to assure a great sale for the product here and perhaps abroad.

The company proposes also, in addition to selling fuel, to furnish power. It is said that the surveys of the peat bogs made by the company, not far from the lake of Tezcoco, have shown them that they had available some 8,000,000 tons of what is known as "moss" peat. They have acquired the right to these deposits and propose to invest some $2,000,000 United States currency in the plant for its exploitation, which will be located at some point in the Valley of Mexico, not far from the city.

TARIFFS.

CHANGES AND REGULATIONS.

AUSTRALIA.

MODIFICATIONS IN THE NEW CUSTOMS TARIFF BY PARLIAMENT.

The following summary of the changes made in the tariff bill by the Australian Parliament, is reproduced from the London Commercial Intelligence:

Introduced into the Commonwealth House of Representatives on August 8 last, the new Australian customs tariff has passed that House.

Further alterations at the hands of the Senate are not likely to be extensive. A very large number of modifications, however, have been made by the representatives.

In many instances the preference [British] has been increased, but the chief feature of the revision has been the reduction of the heavier duties. The result is that the tariff is much milder than might have been expected from the draft proposals. The new excise duties to be imposed on Australian manufacturers who do not observe "fair" labor conditions have also to be taken into account in estimating the protective effect of the new tariff.

In the textiles group the principal items have come through unchanged, with the important exception of whole or partly made up apparel of wool and silk, or containing wool and silk. From 45 per cent (general) and 40 per cent (British) the duty on these goods has been reduced to 40 per cent (general) and 35 per cent (British).

The duties on small arms have been materially altered. On double-barreled guns the proposed duties were 11s. each (general) and 10s. (British), on single-barreled 5s. 6d. (general) and 5s. (British), the duties on barrels for same or actions to be half these amounts. All are now to pay 15 per cent (general) and 10 per cent (British). On revolvers, pistols, and air guns the duties are to be 2s. 9d. each, or 20 per cent ad valorem (general) and 2s. 3d. (3d. less) or 15 per cent ad valorem (British).

METALS, HARDWARE, AND MACHINERY.

In this group most of the duties have been recast and lowered. Corrugated galvanized-iron plate and sheet is to pay 30s. per ton (general) and 20s. per ton (British), instead of 25 per cent and 20 per cent ad valorem. Galvanized iron not corrugated, and corrugated not galvanized are to pay 20s. (general) and 10s. (British). Five per cent has been taken off the duties on bolts, nuts, and rivets, and now pay 25 per cent (general) and 20 per cent (British). The duties on lamp, gas, and electrical stoves have been reduced by 5 per cent ad valorem and incandescent mantles are to pay 25 per cent and 15 per cent, instead of 40 per cent and 30 per cent. Arc and incandescent lamps are to pay 5 per cent (general), British being duty free.

A considerable number of agricultural, horticultural, and viticultural machines, including thrashers, are to pay 10 per cent (general), while British makes will be duty free. Other machines and implements of this class will pay 15 per cent (general) and 12½ per cent (British). The duties on weighing machines are 10 per cent and 5 per cent. Gas producers, flue heat economizers, mechanical stokers, steam traps, steam turbines, superheaters, and water purifiers will be free when British and charged 5 per cent when not British. The same scale applies to pulley blocks, pneumatic elevators and conveyors, steam turbo-blowers, telphers, and patent hoists for underground mining. The proposed duty on turbines was 25 per cent (British). Locomotives, traction and portable engines, steam road rollers, and scarifiers are to pay 25 per cent (20 per cent British). Feed grinders and sheep shearing machines are to pay 30 per cent and 25 per cent. Rotary and percussive drills (20 per cent and 15 per cent) and coal cutting machines (5 per cent and free) are the other machines named in the tariff. All machines and tools not specially named in the tariff are to pay 25 per cent (general) and 20 per cent (British).

There are scores of alterations in the other divisions of the tariff, and one which is of general interest is the removal of the duty on catalogues, price lists, etc.

BRITISH INDIA.

INCREASE OF DUTY ON BEER AND OTHER FERMENTED LIQUORS.

Consul-General William H. Michael, of Calcutta, reports, under date of January 9, that by the Indian tariff-amendment bill which was passed at the last meeting of the imperial legislative council, the government of India has given effect to the recommendation of the late excise commission that the import duty on imported beer and the excise duty on beer made in India should be raised from 2 cents to 4 cents a gallon. In the term "beer" the new act also includes other fermented liquors which are classed with it in the tariff act, such as ale, porter, and cider.

BRITISH SOUTH AFRICA.

TARIFF COMMISSION APPOINTED IN TRANSVAAL.

Consul J. H. Snodgrass, of Pretoria, reports, under date of January 15, that in order to arrange some programme upon which to work at the forthcoming tariff conference of the colonies, the Transvaal government has appointed a commission to inquire into and report upon the following matters:

The condition of existing industries, manufacturing and agricultural, and the possibility of the extension of such industries.

What encouragement or protection should be given to such industries, and by what means and to what extent; whether by protective duties, bounties, railway rates, or otherwise.

What effect the customs union convention and railway rates, preferential or otherwise, and bounties have had on such industries.

In what proportions imported and local products or raw materials enter into local manufacturers and to what extent white labor is used as compared with colored labor.

To what extent the use of colored or Asiatic labor in the neighboring colonies is prejudicial to the continuance and establishment of industries in this colony.

What effect the customs union convention and the parcels post have had on the transfer of business to the coast and elsewhere.

The best steps to be taken to encourage and promote the trade and industries of this colony.

The desirability of amending the classification of the present customs tariff and in what directions and generally.

All matters relevant or akin to the foregoing terms of reference.

The consul states that it is pretty generally believed that this commission will suggest a reduction of the tariff on various articles of food.

CHINA.

CUSTOMS REGULATIONS GOVERNING ADMISSION OF MERCHANDISE.

The following provisional regulations for the transport of native or foreign goods to the newly opened ports of Manchuria have been issued by the Chinese inspector-general of customs with the consent of the revenue council, and are transmitted by Consul Wilbur T. Gracey of Tsingtau:

1. All foreign goods for which import duty has been paid at Tientsin, Newchwang, Antung, or Tairen (Dalny) or native goods on which coast trade half duty has been paid, unless they are to be transported into the interior either under inward transit pass or paying duty or likin at customs houses or barriers en route at the option of the merchant and as provided by the rules hitherto in force, if intended for transport by whatever means of conveyance to the newly opened ports in Manchuria may be provided with a special certificate exempting them from further charges.

Such special certificates shall be stamped in accordance with the regulations, and shall be surrendered within two months. On every application for such special certificates shall be stated over the signature of the applicant the name of the port of destination and unless proof of the arrival of the goods at the port of destination is produced within the time allowed at the customs house where the application was made, three times the half duty shall be paid.

An annual bond may be executed in the same terms and deposited with the customs, to save the inconvenience of executing a bond on every occasion. In the case of foreign merchants the bond shall be sealed by the consul, and in the case of Chinese by the customs. Anyone who has not executed an annual bond must put in a signed application on each occasion.

Forms of bonds and applications shall be fixed by the customs.

2. Goods transported under special certificates to the newly opened ports in Manchuria, in order to be in order, must correspond with the description of them given in the application. If they do not so correspond, they shall be regarded as having no special certificate, and besides the penalty of three times the half duty of the entire quantity due at the custom house where the application was made, the goods shall be liable to confiscation on arrival at the port of destination.

CUSTOMS STATIONS OPENED.

The Department of State has received a telegram from the American Legation at Peking advising that the customs stations at Manchuria and Pogranichnia were opened on February 5.

CUBA.

CHANGES IN THE CUSTOMS TARIFF.

The Gaceta Oficial of January 23, 1908, contains a decree issued by the provisional governor of Cuba ordering the following changes in the tariff:

I. That the following paragraphs in Class IX of the customs tariff be and the same are hereby amended to read as follows:

171. House or cabinet furniture of wood, wholly or partly finished, and manufactures of wood, or of which wood is the component material of chief value, not specially provided for—wicker and cane furniture, 25 per cent ad valorem.

II. That paragraphs 172, 173, 174, 175, and 176 are hereby abrogated, they being included in paragraph 171.

180. Esparte manufactured into fine articles; rushes, vegetable hair, cane, osiers, fine straw, palm, and genista, manufactured into articles of all kinds, not specially mentioned—T. (Disp. III, rule 5), 100 kilos (kilos, 2⅕ pounds), $13.

The following changes in and additions to the Cuban tariff were also promulgated by decrees of the provisional governor during the year 1907:

74. Zinc, lead, and other metals not specially mentioned in the tariff: (*g*) hammered in thin leaves (lead foil) and in capsules for bottles, kilo, $0.04. 113 (*a*) cordage and rope makers' wares of cotton, 100 kilos, gross weight, $6. 128 (*a*) braids and ribbons of cotton for reins, headstalls, and girths, kilo, net, $0.15. 142 (*a*) braids and ribbons of hemp, jute, linen, ramie, etc., for reins, headstalls, and girths, kilo, net, $0.17.

It is further prescribed that emery cloth shall be classified under paragraph 315 of the tariff at the rate of 32½ per cent ad valorem. (Gaceta Oficial, August 24.)

162.—Cardboard paper, and pasteboard in sheets: (*a*) Cardboard paper, fine cardboard, and cardboard covered with glazed paper or with fancy paper, flowered, painted, embossed, or with any other kind of fancy work—T. (Disp. III, rule 5), 100 kilos, $3.50. (*b*) Other pasteboard, and those covered with ordinary paper, white or dyed, satined or not—T. (Disp. III, rule 5), 100 kilos, $1.

163.—Manufactures of cardboard paper or pasteboard: (*a*) Boxes manufactured from cardboard paper, fine cardboard, or pasteboard, such as has been enumerated in paragraph No. 162 (*a*) or with paper ornaments, or other materials which do not chiefly determine their value—T. (Disp. III, rule 5), 100 kilos, $7. (*b*) Boxes manufactured from pasteboard such as has been enumerated in paragraph 162 (*b*)—T. (Disp. III, rule 5) 100 kilos, $2. (*c*) Cardboard in sheets or otherwise, with or without tissue inside, impregnated with tar, pitch, asphalt, cement, or other analogous material, and used as roofing for buildings—ad valorem, 25 per cent. (*d*) Other manufactures of cardboard paper, fine cardboard or pasteboard, not especially mentioned—T. (Disp. III, rule 5), 100 kilos, $20. (Gaceta Oficial, November 14, 1907.)

The following decree has been promulgated by the Provisional Governor of Cuba, January 27, 1908:

That Order No. 206 from General Headquarters, Department of Cuba, issued September 28, 1901, by the Military Governor, in pursuance of the order of the Secretary of War, in compliance with the directions of the President of the United States of America September 21, 1901, in the part of the same which refers to paragraph 215, of the Customs Tariff in force, be and is hereby amended to read as follows:

215. Machinery and apparatus for making sugar and brandy:

(a) Complete machinery and apparatus applicable only to the manufacture of sugar whoever be the importer.....ad valorem 10 per cent.[a]

(b) Machinery and apparatus for making brandy; and other apparatus and machinery and integral parts of same which having several applications for industry and agriculture are destined as auxiliary for the manufacture of sugar and brandy; provided that same are imported for or by planters who under such regulations and security as the Secretary of the Treasury may prescribe shall justify the installation of same on their estates..ad valorem 10 per cent.[a]

Note I.—In the foregoing paragraph (b) shall be included the detached parts of the machinery and apparatus mentioned in paragraph (a) when imported separately; and by special concession fire bricks for the installation of boilers and furnaces, as well as the iron and steel houses, complete and knocked down, having or not glass or crystal parts, or other fireproof material, and the following material when imported for the construction or repairs of railways for the private use of the sugar plantations: Turntables, transfer bridges, iron or steel bridge work, riveted or rolled, iron or steel rails, points, crossings, signals, gate crossings, and metal ties, splices, fish plates, fish-plate bolts, spikes, frogs, semaphores, switches, and railroad ties of wood.

Note II.—Railroad rolling stock of any kind is excluded from this concession.

Note III.—In case that any of the private railways installed with the material imported under privilege of this decree, as well as under order 206, prior to this decree and hereby amended be declared for the public service, the importer, or in his absence, or in case of transference of the property, the estate, shall be compelled to pay the full amount of duties, under the corresponding paragraph of the tariff without any rebate or benefit. And these duties shall be collected since the date of the first importation made of such material.

This decree is to take effect thirty days after publication in the Official Gazette, i.e., February 28, and all other circulars and decisions prior to this decree and relating to paragraph 215 inconsistent with the same are repealed.

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[a] On imports from the United States the rate is 8 per cent ad valorem.

HONDURAS.

EXPORT TAX ON GOLD AND SILVER.

Consul W. E. Alger, of Tegucigalpa, transmits the following translation of decree imposing export duties on precious metals:

Article 1. A tax of 12 per cent of its value is established on crude silver exported from the country. Article 2. A tax of 2 per cent of its value is established on gold in bars or dust exported from the country. Article 3. The fixed value of silver for purpose of the tax is 40 sols (the present value of a sol in United States currency is 49.9 cents) per kilo; of gold, 675 sols per kilo. Article 4. The disposition of this decree does not apply to mining enterprises that have concessions granting them free exportation of their metals. This decree goes into effect on date of its publication—December 10, 1907.

MOROCCO.

A GENERAL INCREASE OF DUTIES.

Minister S. R. Gummere informed the Department of State under date of February 6, 1908, that the additional duty of 2½ per cent ad valorem on imports into Morocco, authorized by article 66 of the general act of Algeciras, was to go into effect February 19, 1908. The former duty on most imports into Morocco was 10 per cent ad valorem.

SPAIN.

FREE ADMISSION OF IRON CANS AND OTHER RECEPTACLES.

W. H. Buckler, chargé d'affaires at Madrid, transmits a copy of a royal decree, dated December 2, 1907, which provides for the temporary admission into Spain free of duty of iron and steel cans and receptacles, including steel tanks commonly employed for the transportation of oxygen, provided such receptacles are brought to Spain temporarily, to be used in exporting domestic products.

TURKEY.

RESTORATION OF THE FULL RATE ON WHEAT AND FLOUR.

Consul-General Edward H. Ozmun, of Constantinople, reports, under date of February 26, that the temporary regulations of the Turkish Government, which prohibited the export of wheat and suspended the entire duty of 11 per cent on grain imported into Constantinople and reduced the duty of 6 per cent on imported flour, have been rescinded. From February 14, in the provinces, and from March 14, in Constantinople, the usual duty of 11 per cent ad valorem on grain and flour will be collected and the export of grain will be permitted.

VENEZUELA.

CHANGES IN CLASSIFICATION UNDER CUSTOMS TARIFF.

Minister W. W. Russell, of Caracas, transmits a decree, dated December 19, 1907, providing for the following classifications under the Venezuelan tariff:

ARTICLE 1.—From the date given by article 225 of law 16 of the Hacienda Code for the termination of the ultramarine periods[a] and which shall commence to count from to-day, the following articles imported through the custom-houses of the Republic shall pay the following duties:

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[a] The ultramarine period is the time allowed for putting into effect new customs duties on articles coming from countries across the sea, viz, Europe, forty days; United States, twenty; West Indies, ten.

THIRD CLASS.

Marble in the rough, unpolished and uncut, as also marble slabs; the paving for vaults not being included in the term marble slab will pay fourth class as polished or worked marble.

FIFTH CLASS.

Blank books, patent medicines or medicines made by secret process which have been duly examined by the board of examination and classification of patent medicines and medicines made by secret process.

SIXTH CLASS.

Envelopes made up or half made up. Chintzes, Nainsook, calicos, cretons, "carlancanes," brilliantine, fine plaid goods which have more than 13 stitches of warp in a square of 5 millimeters, poplins, "malvinas," Japanese goods (japonesas), lustre (lustrillos), colored percales similar to the above and not mentioned in other classes such as cotton merino and colored cotton flannel.

SEVENTH CLASS.

Muslins, colored cotton crape goods, linen, gauze, barege, grenadine, organdy, zepher, cambric, "dulce sueno," tarleton, "imite," cambric, white or colored cotton batiste, smooth, worked, striped or bordered in pieces or cuts for dresses and any other kind of cloth similar to the foregoing not comprised in other classes.

The duty under the above classes is as follows: Class 3, 0.25 bolivar per kilo; class 4, 0.75 bolivar; class 5, 1.25 bolivars; class 6, 2.50 bolivars; class 7, 5 bolivars per kilo. One bolivar=19.3 cents United States currency; 1 kilo=2.2 pounds.

Another decree, bearing the same date, provides that wooden or paper boxes generally used for candy and handkerchiefs shall be classified under the fifth class of the tariff.

Minister Russell also reports from Caracas the following changes in the Venezuelan tariff since January 18, 1908:

Imported matches will be classified in the fifth class (1.25 bolivars per kilo). (1 bolivar=19.3 cents United States currency; 1 kilo=2⅕ pounds.) This does not alter the classification which the present tariff established for matches of "estrellitas" or for red lights.

Raw material remains in the fourth class. (0.75 bolivar per kilo.)

Ordinary black or clear glass bottles for bottling liquors, gaseous waters, and sterilized milk, and the quadrangular flasks of the same ordinary glass for bottling gin, imported from abroad, are classified in the second class (0.10 bolivar per kilo), with an additional 25 per cent.

POTTERY.

METHODS OF MANUFACTURE.

MEXICO.

ANTIQUITY OF THE INDUSTRY—PRODUCTION OF THE CUERNAVACA WARE.

The pottery industry of Mexico, writes Special Agent Arthur B. Butman, is of ancient origin, having been handed down from father to son from time immemorial. Excavations among the prehistoric ruins of Mitla have resulted in the unearthing of many specimens of this handicraft, the designs of which are reproduced to this day. A description of the industry is appended:

Cuernavaca, Guadalajara, Puebla, and Oaxaca are the principal centers of the modern pottery industry, although pottery is manufactured in many of the smaller towns and villages throughout the Republic. The pottery manufactured in these cities possesses distinctive types and characteristics, each quite different from the others, and universally known and recognized by the name of the city where it is made.

Cuernavaca pottery is manufactured in the little village of San Antone, just outside the city of that name. The dwellers in practically every one of the adobe houses in the village are clay workers, and each house is a workshop. The only established plant is owned by an Englishman. Pottery is here made entirely by hand, and after the following process:

PREPARING AND MOLDING THE CLAY.

The clay, after being taken from the earth, is first thoroughly dried in the sun, then pulverized with a wooden mallet, and passed through the finest meshed brass-wire cloth, after which process the clay is finer than wheat flour. The former custom of the Indian was to use a handkerchief or a piece of cotton shirting for this purpose. For mixing, a fine slime is prepared by soaking a portion of the pulverized clay in water, passing it through a sieve, and afterwards mixing the dry clay and kneading to the right consistency.

A mold of the required size for the body of the article to be made is placed on the upper portion of the old style potter's wheel, covered with the proper thickness of clay, then patted and shaped with a wooden paddle and with the hands. The Indian potter turns the model about before him by scraping his bare toes on the lower portion of the wheel, and during the revolutions he continues to smooth the clay with a narrow strip of wet cloth until the desired surface is obtained. The narrow standard or legs, as the case may be, are then fashioned, and the article removed from the mold and placed in the same inverted position until such time as the standard shall have dried sufficiently to hold the weight of the body. Handles, spouts, etc., are all formed by the hands, without molds, and joined by means of the clay slime and prepared clay.

DECORATING AND DRYING PROCESSES.

One characteristic peculiar to the Cuernavaca pottery is the inlaid decoration, for which small bits of broken china are employed. Other decorations principally used are molded reptiles and insects, molded leaves and flowers, and stamped work (Grecian and conventionalized border designs).

The making of the inlaid work is a slow and primitive process, and the execution of the many and often elaborate effects thus wrought is a great tribute to the artistic and patient Indian potter. The design to be used is first drawn upon thin paper, then placed on the damp clay and traced with a small sharp-pointed stick, after which it is slowly wrought by pressing bits of china of the proper shape into the clay, with the glazed surface on the outside. The article is now thoroughly smoothed with a wet cloth and placed in the drying room.

Molds for the formation of decorations are made in plaster of Paris from the live reptiles, insects, etc., so that each is perfect in detail. These decorations are formed by carefully pressing the clay into the mold and as carefully removing it. The edges are then trimmed and the molded decoration placed in the desired position on the article to be decorated, using the clay slime as a cement. In cutting portions of the clay preparatory to molding a crude tin knife is employed. For trimming edges a thread of fiber is used, one end being held in the mouth, the other in the hand. Stamps for fashioning the stamped decorations are made from hard wood, hand carved by the Indian.

During the drying process the pottery is watchfully shielded from sun and wind and a careful examination made each day of every piece in the drying room, so that, if possible, the molded decorations may be prevented from cracking. Should these crack before the articles are completely dried it is possible to replace the decoration, otherwise the article is valueless. While drying the handles and other delicate portions are wrapped in cloth, that the process may be equalized. At a certain time the molded decorations are well scraped and cleaned, and when thoroughly dry the pottery is polished with a piece of rough sacking and finally with a smooth cloth. It is now placed in the sun, to be completely heated before painting and burning. One color only is used in the painting of Cuernavaca pottery. This is a yellow clay from the neighboring mountains, similar to yellow ocher, simply mixed with water. The pottery is now ready for burning.

METHODS OF BURNING.

Here again we find a method most primitive. I was informed by the proprietor of the pottery factory that the habits of these Indian potters, together with a natural antipathy toward progressive usages, almost prohibits the introduction of new tools or methods. In fact, the workers refuse to substitute certain small modern tools purchased for the work, preferring their own crude ones.

No permanent kiln is used for burning, each individual process being accompanied by the building of a kiln of the size required in the following manner: A number of jars, approximately 18 inches in height and 9 inches in diameter, are placed on an open space of ground, as closely together as possible, between and around the outer edges of which is laid the fuel. Flat pieces of previously burned pottery are used to cover the jars and fuel, upon which are piled the articles to be burned. The whole is then completely covered with many "comales" (round, flat slabs, which are used for cooking the "tortillas," a sort of a pancake and universal peon food, by being placed over burning charcoal). The fuel is then set on fire, and when well alight green grass or wet hay is thrown over the pile. The necessary burning occupies about two hours, after which time and while red hot the kiln is uncovered. Each article is removed, being lifted by an iron rod, and allowed to cool in the air, which concludes the process of manufacture.

After burning the painted portions of the pottery will have turned to a dark terra cotta, and the unpainted portions, or such pieces as are wholly left in the natural color of the clay, will have changed from a dark gray to a light terra cotta color.

The principal loss to the manufacturer occurs during the drying process, almost no breakage resulting from the burning. The Cuernavaca potter will mold any design if a drawing with required dimensions is furnished him.

The Mexican Government recently ordered a Cuernavaca vase 32 inches high, with inlaid decorations of the American and Mexican flags and the American and Mexican eagles, as a gift to President Roosevelt.

The form of the lizard, so frequently employed in decorations of this particular pottery, owes its use to the existence of a lizard, nearly 9 feet long, carved on a rock, supposedly by the Aztecs, in the village of San Antone.

The wage of the potters ranges from 37 centavos to 1 peso a day, the foreman of the factory receiving 8 pesos a week (100 centavos=1 peso; 1 peso=49.8 cents).

THE GUADALAJARA POTTERY.

Pottery made in Guadalajara is probably more widely known than that of any other Mexican manufacture. The potteries are situated about 6 miles from the city proper, in the Indian village of San Pedro. Here another race of potters, true descendants of the Aztecs, live, handing down from one generation to another the knowledge of working this peculiar class of ware called by them "Zapotecas." Many of the original forms and designs mentioned in the records of the friars at the time of the conquest are preserved in the Guadalajara pottery of to-day, this being especially true of the ware known as the "Aromatic" pottery, which is colored in the burning.

The clays from which the Guadalajara potteries are formed are of two kinds, black and white. The black clay is found in veins 1 to 2 meters (meter=3.28 feet) below the general level of the ground, and is a formation of vegetable origin, as is proved by its peculiar odor and also by petrified remains. The veins vary greatly in length, but the width is usually from 3 to 4 meters. The white clay is more abundant than the black, and is very compact and heavy, being a subsoil formation, covering large areas and varying from one-half to 2½ meters in depth. It is a great detriment to agricultural interests in the region.

The black clay is prepared by simply dissolving in water, producing a very sticky substance. The white sort is thoroughly dried, pulverized, and passed through a fine wire sieve, then added to the wet black clay and well kneaded. For molding the finer forms the potter uses the substance as thus prepared. If flower pots, garden jars, etc., are desired, a fine sand is added.

EACH MOLDER A SPECIALIST.

Each family of workers are specialists in their line of work. Many forms and designs are produced, but only one design in one family. The potter who molds flower pots can not mold water bottles, nor can the one who molds water bottles mold figures.

I was informed by the proprietor of the important Guadalajara establishment that the transfer of work has been tried, but always without success. The worker teaches his son to perform the same task as his own, and should he have no son the knowledge of the special form or design of his work is lost at his death. By way of illustration, I was told of an aged Indian who had for many years furnished the firm with a special form of jar, known as the "Montezuma." The Indian died, leaving no heirs, and the loss of this particular article, which was naturally a rarity commanding a good price, resulted.

Unlike the Cuernavaca potters, the Guadalajara workers never use a potter's wheel. Here the small articles are made in molds and the larger pieces are formed by placing a mass of prepared clay on the ground, while the potter walks around and around the clay to be molded, using a piece of hogskin, well soaked in water, for forming and smoothing the article.

The tools which are employed are a piece or knife of tin, a wire for cutting or trimming, and a nail or small piece of pointed wood never exceeding 6 inches in length. A dish of water and some white clay in powdered form are placed near by for cleaning the clay from the hands during the process of molding.

PRODUCTION OF COLORS IN FIRING.

The Guadalajara ware is fired or burned in cylindrical ovens, with a hearth and no chimney, made especially for this purpose, different fuels being employed to produce the different colors. For the red-colored pottery a grass locally known as "tepopote" is used, which is found in abundance on lands having a volcanic formation in appearance much like pumice stone. Such lands are called by the natives "jal," and from their formation it is said the State takes its name of Jalisco.

When a grayish-white color is desired, the pottery is burned with twigs of "taray" (tamarisk), or shavings may be used. It is impossible to employ wood or coal of any kind, as the necessary requirement is the flame rather than the heat. The burning process occupies about twelve hours, more or less, according to the size of the oven in use.

The colors employed are mineral, manganese for the black, kaolin for the white, while the reds and yellows are of special kinds of clay. Water bottles, for instance, which are often made in red or yellow colorings, are first painted and then burned, painted while still warm, and again subjected to the flames of dried grass, which burns with much smoke.

The bright greens, blues, etc., are obtained from pigments mixed with gum, varnish, or oils, and, not being fired, these colors will in time wear off. Those interested in the manufacture of Guadalajara ware endeavor to have preserved the old forms, strictly Indian, rather than attempt to produce copies or imitations of forms more modern.

However the ancestry of the primitive Mexican Indian may be decided, it is certain that the decorations or paintings, which are all of Indian origin, on Guadalajara pottery very closely resemble Chinese decorations.

The wages paid here are approximately the same as in Cuernavaca, the most expert potter receiving not more than 1 peso a day, and working from 8 a. m. to 12 m. and from 2 to 6 p. m.

PUEBLA AND OAXACA POTTERY.

The Puebla pottery is a more or less crude earthenware, having a white, or rather grayish-white, ground, with decorations usually in the delft blue shades, although browns and yellows sometimes appear. The Puebla tiles are a famous characteristic of the city of the same name; in fact, Puebla is a city of tiles. They are everywhere used—on the domes of churches, the façades of residences, and on walls and floors. The decorations are usually medieval in design and, though somewhat crude, not inartistic. Puebla ware is known as "Talavera."

The pottery made in Oaxaca is a green glazed ware, and includes articles for table and kitchen use.

The principal output of all varieties of Mexican pottery is at present for domestic use. With the exception of that purchased and sent to the United States by American tourists very little is exported.

[Seven photographs of Guadalajara and three of Cuernavaca pottery accompanied the report and are on file in the Bureau of Manufactures.]

CHINA.

REVIVAL OF THE ART OF PEKING CLOISONNE MANUFACTURE.

The following report on the subject of the Chinese manufacture of cloisonne at Peking is transmitted by Consul Wilbur T. Gracey, at Tsingtau:

Probably the finest quality of cloisonne now manufactured is that which comes from Peking. The Industrial Mission Depot, a branch of the Peking Industrial Institute, has recently been opened at Shanghai, where a large supply of cloisonne is always on hand, and where vases, bowls, jars, plates, boxes, incense burners, water pipes, umbrella handles, cigar boxes, napkin rings, etc., can be purchased at any time. Goods are packed by this depot and shipped to all parts of the world. The cloisonne exhibit of the Peking Industrial Institute was awarded a gold medal at the St. Louis Exhibition of 1904. The following quotation regarding the manufacture of this ware will be of interest:

> The base, whether vase, bowl, or dish, is of copper and is obtained ready made from the coppersmiths. The design is then etched on the copper base, and delicate copper ribbons are shaped by means of pincers to follow the lines of the design. These are cemented into position by means of a special vegetable glue, fortified by a metallic composition, which maintains the shape of the wire tracery while it is being annealed in a primitive oven surrounded by a wire cage containing charcoal, which is kept at a red heat with fans.

When cool the vase is scoured in an acid decoction and is then ready for coloring. An artist, supplied with a number of saucers containing all the colors he requires, takes the vase, and, from memory, and without reference to any illustration, fills in the interstices between the wires (the cloisons) with the proper pigments. These consist of crystals with a base of saltpeter and a kind of calcareous sandstone found in the neighboring hills. The different colors are obtained by composition with iron pyrites, oxides of iron, or salts of lead. The colored crystals, ground to a powder, are mixed with rice water, and the resulting paste forms the base of the enamel. The colors are applied by means of a small trowel, and the operation calls for great skill and dexterity.

When all the spaces are filled the vase is again baked in the oven for a certain number of minutes, as decided by the expert in charge of this operation. When cool the vase is smoothed off with a file and returned to the coloring room, where all defects are made good. In some cases several of the spaces must be done over again; the solid vitreous color is chipped out and the cloison refilled with paste.

The vase is again baked and polished, this time with limestone, on a lathe. The retouching, rebaking, and polishing are continued until the desired result is obtained. The final lathe polishing is done with charcoal.

The vase is then ready for gilding, which is done by an ordinary galvanic process and a final polishing renders the article ready for the market.

AUSTRIA.

COMBINE OF CHINA MANUFACTURERS—EFFECT ON PRICES IN AMERICA.

Consul John Steel Twells reports that on November 25 the 24 largest china manufacturers of Austria held a meeting at Carlsbad at which it was determined to form a trust with the object of increasing the price of china goods and to establish two different market values, viz, one for Austria and another for the United States. The consul adds:

It is pretended that the class of china goods exported differs materially from that sold in this country, and therefore two different market prices will be established. This trust formation will greatly interest china dealers in the United States, and may encourage our manufacturers of china goods to increase their own production.

DRUG TRADE.

PRODUCTS AND MARKETS.

ASIATIC TURKEY.

DEALERS IN OPIUM AT SMYRNA EXPERIENCE CONSIDERABLE LOSSES.

Consul Ernest L. Harris says in a report from Smyrna that among the manifold products of Asia Minor none possesses a greater degree of importance, as far as the commercial interests of the country are concerned, than does opium, which leads him to furnish the following trade information:

Opium is the most important and valuable drug exported from this country. The crop is usually brought to the Smyrna market about the end of July or the beginning of August. If the opium has been well dried, it soon finds a purchaser; but if it is damp it becomes a drag on the market. Dry opium, therefore, fetches a better price. That which is intended for export to foreign countries is packed in zinc-lined wooden cases and hermetically sealed.

The price of opium in the Smyrna market is influenced by various conditions. Among the first is, how much has been left over from the last season, and especially whether the London market has been able to dispose of all that it had on hand. For some thirty years past the American market has also exerted considerable influence upon the supply and demand. The fluctuation in prices is primarily due to speculation. People speculate in opium in Smyrna, London, New York, etc., and there are sometimes such irregularities in prices that it costs more per pound in Smyrna, the origin of the article, than it does, for example, in America.

YIELD AND PRICE QUOTATIONS.

In former years opium was sold in two qualities, namely, that which was examined and cleaned and that which was left uncleaned. An expert examined each basket, loaf by loaf, carefully removing those of a dark color, together with any extraneous matter. Twenty years ago, however, this method was abandoned. Although the expert examiner is still retained, yet the examination is said to be considerably less rigid than formerly.

Many efforts have been made in Europe to produce a quality of opium equal to that of Smyrna. But the attempts have been failures, for the reason that the Asia Minor product contains, on an average, about 10 per cent of morphine. Opium merchants in Smyrna say that the output in this country one hundred years ago amounted to something like 500 baskets of 165 pounds each. In 1850 it had increased to 3,000, and 1875 more than 5,000 baskets. The annual output now varies anywhere between 4,000 to 8,000 baskets. The largest yield ever known was in 1902, when it amounted to 11,000 baskets. The 1907 crop was 4,000 baskets, against 9,000 in 1906, 3,500 in 1905, and 10,000 in 1904.

If the output of opium has been very irregular, the governing prices have been equally so. In 1850 opium sold for $6.65 to $8.55 per kilo of 2.2 pounds. In 1869 it had reached the maximum price of $30 per kilo, or about $15 per pound. To-day it sells for $2 to $3 per pound.

PRESENT AND PROSPECTIVE MARKET CONDITIONS.

The year 1907 was not a good one for Smyrna merchants dealing in opium. To begin with, there was a shortage of about 5,000 baskets as compared with 1906. Then, again, they thought the market might be controlled somewhat by buying up foreign opium at high prices. But European buyers were slow to respond to the higher prices, with the result that Smyrna merchants have been compelled to sell at the old figures, with a considerable marginal loss on what they had purchased abroad. Some say that $300,000 to $350,000 has been lost in this way. At present most of the 1907 crop still remains unsold.

Many merchants, however, still have hopes of disposing of last year's crop on a favorable basis for the following reasons: The outlook for 1908 is not good. At the time of planting last fall no rains came to render the soil pliable, so that the poppy seed could be covered in a satisfactory manner. It is also reported that there is but little stock on hand in Constantinople, Saloniki, London, and New York. The hopes placed in Persian opium, as a substitute for the Smyrna product, seem not to have been realized, owing to the fact that it contains only about 6 per cent of morphine, while that of Smyrna has 10 per cent.

The statistics of this consulate show that $388,205 worth of opium was shipped to the United States during 1907. [A treatise on the culture of the opium poppy forwarded from Smyrna by Consul Thomas H. Norton may be perused at the Bureau of Manufactures.]

SALVADOR.

THE UNITED STATES LEADS IN PHARMACEUTICAL SUPPLIES.

Consul-General Samuel E. Magill, of San Salvador, reports that the trade in drugs and medicines in Salvador is conducted, with few exceptions, by native pharmacists, who are required to pass careful examinations before a special board, and the Government exercises careful supervision over the conduct of the business, particularly as to the sale of poisons and anesthetics, as well as to the capacity and intelligence of the prescription clerks. He adds:

American drug and medicine exporters have evidently paid attention to this field and as a result have made a good showing in comparison with those of European countries. In general the following is the way the local drug trade is divided as to source of supply:

United States.—Medicinal soaps, medicated cotton, rubber goods, tooth powders, medicines in pills, gauze for wounds, paper goods, patent medicines, brushes, special preparations, dental articles, and medicinal wines.

Germany.—Basic drugs and chemicals, toilet soaps, perfumes, patent medicines, and essences.

England.—Salts, toilet soaps, and patent medicines.

France.—Perfumes, toilet soap, patent medicines, glass tubes, syringes, etc., apparatus generally, and toilet powders.

Some few specialties are brought from Italy and Spain.

AMERICAN PATENT MEDICINES—EUROPEAN ADVANTAGES.

American patent medicines hold the market here for the sole reason that they are more extensively advertised. Such European compounds as are advertised find ready sale also, so it is not a question of nationality so much as willingness to advertise in newspapers, and by means of fancy cards and pictorial almanacs create a demand that druggists must supply, and the demand exists as long as the advertising is pushed.

Salvador, being somewhat difficult of access, traveling drug salesmen rarely canvass this territory, and most of the business is done through price lists and special catalogues. In the matter of lists the local druggists prefer those prepared by German and French houses as being better arranged and more complete.

American houses pack their goods as well as those of Europe, but can improve by making packages lighter without sacrificing strength, as duty is paid on gross weight. European houses have the advantage over American houses of a parcels-post treaty whereby small orders, needed quickly, are placed in Europe rather than in the United States. Liquids are frequently shipped this way and almost invariably arrive in good condition.

ROBBERY COMPLAINTS—TIME PAYMENTS.

One drug house complains of greater proportion of robberies from American than from European shipments. It is believed that this trouble occurs at points where packages sometimes remain in warehouses for months awaiting shipment. Such losses from American shipments are borne by the local consignee, as insurance taken in America does not cover from shipper to consignee as does European insurance. This has such an effect on trade that it would be well for American drug exporters to investigate the truth thereof and rectify it if possible. Whether true or not, it is a fact that packages that should contain perfume, soaps, and other valuable articles have reached here entirely empty, the merchandise having been replaced by stones or dirt. The American shipper gives no redress to the consignee for such loss, whereas under almost similar conditions in shipments from Germany and England Lloyds agents here have certified to such loss and the insurance company has paid it.

Some local druggists state the longer time for payment offered by European shippers results in loss of trade to American houses. This subject has been much discussed and is one that the shippers are doubtless familiar with and must settle to suit their own interests. To increase their trade in Salvador American drug supply exporters might look well into the following points: Greater advertising of patent medicines; lighter packing without sacrificing strength; secure insurance clear through from house of shipper to house of buyer; more time for payment without increase of price; parcels-post treaty; investigate and prevent robberies en route; improve catalogues and make lists more convenient and print both in the Spanish language.

Most of the American houses, especially two of them, have the confidence of the local consumers, who seemingly would like to increase their purchases of American goods, so it might be well for a Spanish-speaking agent to cover this field occasionally and get the direct and technical information to accomplish that end.

GERMANY.

HISTORY AND EXTENT OF THE TOILET-WATER INDUSTRY IN COLOGNE.

Vice-Consul Charles Lesimple, writing from Cologne, states that German manufacturers are averse to giving information concerning the making of toilet water, but that he has secured the following:

The toilet-water industry in Cologne was established in the beginning of the seventeenth century. At that time the city numbered about 50,000 inhabitants, while the present population is 450,000. Cologne gained preeminence in this industry through the inventors of toilet water (Eau de Cologne). These were Paul Feminis and Maria Clementine, a Catholic nun, who came to Cologne, where for many years they manufactured the Eau de Cologne, and so founded the toilet-water industry of this city. This was begun on a small scale, with only few persons employed, whom they did not initiate into the secrets of the whole process, the last and most important mixture being made by the inventors themselves. Paul Feminis left the secret with the Farina family, while the nun bequeathed the secret to one Peter Schaeben, who had been her assistant for many years. Both families still carry on the business and are the leading manufacturers.

The importance of the industry is by no means great enough to make the city dependent upon it. There are about 30 manufactories of Eau de Cologne in this city, 5 of them being of importance. They each employ on an average 10 men. The wages paid to employees vary between $1.25 and $2 per day, while the office men receive salaries, according to their ability, ranging from $1,500 to $2,000.

It is difficult to approximate the money invested in the business, but it may be stated that the outlay by the different firms varies from $10,000 to $200,000. The toilet-water industry is confined to the city of Cologne. The chief countries making purchases are England and its colonies, Austria, Russia, etc.

PROPRIETARY MEDICINES.

STRICT REGULATIONS GOVERNING SALES—NO IMPORT DISCRIMINATION.

Responding to an inquiry from an American firm concerning the introduction of proprietary medicines into Germany, Consul-General A. M. Thackara, of Berlin, says:

All medical preparations imported into Germany, no matter from what country, have to pay duty as secret remedies (Geheimmittel) amounting to $119 per 2,204 pounds, unless the exact composition of the ingredients is given, not only to the customs authorities, but is also printed openly on the packages.

The police authorities reserve the right also to have analyses made of such preparations by competent experts, and they may even raise an objection if an exorbitant price is charged, when the value of the separate ingredients is considered. These authorities may at their discretion even publish the selling price of patent medicines, together with the cost of each ingredient. The regulations governing the importation and sale of proprietary medicines in Germany are exceedingly strict, but I can not say that there is any unusual discrimination against those made in the United States.

GREECE.

CULTURE, PREPARATION, AND EXPORTATION OF THE HASHISH DRUG.

Consul Edward I. Nathan, of Patras, contributes the following report on the Greek preparation and exportation of the hashish drug:

Hashish, that strange drug which has given our language its word assassin—a man so frenzied by the drug that he accomplishes murder—and which is used by the Persians, Turks, and Egyptians in a manner akin to the use of opium by the Chinese, is the product of a plant grown in large quantities in the Peloponnesus (southern Greece) in the district about Tripolitza. The plant grows to a height of about 4 feet and its branches are thickly covered with small leaves and studded with tiny seeds.

The entire plant, stalk and branches, is cut within a few inches of the root and laid out in the sun to dry. The branches are then rubbed to separate the seeds and these in turn are ground into a fine powder, which constitutes the drug. The best variety of the plant grows in the district of Mantinea, and the center for export is Tripolitza, from which place it is sent to the ports of Kalamata and Nauplia, and from thence abroad. It is estimated that about 100,000 okas (265,000 pounds) of the drug, valued at 2,000,000 drachmas (about $350,000) are annually sent from Tripolitza.

The drug has the power of inducing sleep and producing pleasant and fantastic dreams. Continued use of hashish renders its devotees wild and restless, and results in a complete wreck of their mental and physical constitution. For this reason the Egyptian Government has prohibited the importation of the drug, and recently entered into a convention with Greece to prevent its exportation from there to Egypt, where the consumers of hashish are very numerous. The drug is practically never used in Greece, but is now exported to the various ports of England, Austria, France, and Italy, and from there much, no doubt, ultimately finds its way to Egypt.

MISCELLANEOUS.

FOREIGN PENAL INSTITUTIONS.

BRAZIL.

PERNAMBUCO'S CONVICT COLONY ON THE ISLAND OF FERNANDO.

Consul George A. Chamberlain, of Pernambuco, has prepared the following report on the resources and possible development of the Brazilian archipelago of Fernando de Noronha, situated just 300 miles northeast of Recife de Pernambuco:

This island group has been the subject of various industrial concessions, but is at present more of a sidelight to penologists than a bone of contention among capitalists. The history of the group, which consists of one big island distinguished by a rock peak 1,000 feet high and 17 smaller isles, goes far back in the centuries. In 1504 the group, then known as St. Johns, was granted by the King of Portugal to a cavalier, Fernão de Loronha, and according to the Capuchin monk Claude de Abbeville, who visited the islands with the French expedition against Maranhao, a penal settlement was already established in 1612, composed of a score of men, women, and children. A master of the soil received exiles from the mainland, who became virtually his slaves.

This small beginning grew under the Brazilian Empire into one of the greatest penal settlements in the world. As a national prison the islands attained a population of 3,000. In 1887 this number had fallen off to 2,351, of whom 1,434 were convicts. A few years ago, however, the National Government ceded the archipelago to the State of Pernambuco and all other States were forced to withdraw their convicts.

PRESENT STATUS AND PENAL COLONY OPERATIONS.

The penal settlement is now the penitentiary for Pernambuco alone, a State with an estimated population of 1,250,000. Since there is no capital punishment in Brazil, Pernambuco is obliged to imprison its murderers and at the end of 1906 there were 355 man killers in Fernando out of a total of 442 convicts. This large number of criminals increased during 1907 to over 600, two-thirds of whom are undergoing the penalty for murder. Of the 400 murder convicts only 7 are women. Those convicts who are married and have their families with them are allotted little huts in the village. Trusties are given posts of responsibility and only newcomers and suspects, numbering approximately 200, are kept locked up during the night.

The convict island is 5 miles long and about half as wide. With only a little rain, it is wonderfully fertile and Fernando cotton is of a superfine quality, commanding a special quotation in the market. Aside from cotton the island produces in large quantities corn, beans, mandioc, and pumpkins. It is one of the most orderly and productive bits of tilled ground in all Brazil, and shows what might be accomplished in this country in the way of general agriculture under systematized labor.

The routine at Fernando is systematic. The 600 convicts are called to the fields at 6 in the morning and work until 2 in the afternoon for the State; after that and until 6 they may work for themselves, the State allotting to each a plot of ground.

The director is allowed a squad of 30 of the State police to control the convicts, and he consequently is dependent upon a combined system of trust and espionage to frustrate the frequent attempts at escape. No trees suitable for rafts are allowed to grow on the island and the trusties who are allowed to fish are allotted tiny catamarans, far too small for sea use. A Government-chartered steamer makes a trip from Pernambuco once a month. Economically Fernando de Noronha is one of the cheapest prisons in the world.

INDUSTRIAL FEATURES.

The Fernando group holds the distinction of being the rock upon which the great equatorial and south equatorial currents divide, incidentally forming a triangular sea of quiet water between the archipelago and the mainland. This quiet water teems with fish of every description, prominent among which is the bicuda, a fish likened by some to the barracuda of the West Indies, but which in size and flesh, when dried, has more the appearance of the northern cod. The bicuda is caught by hand, salted and dried in small quantities, and occasionally a few bundles find their way to the mainland. Indicative of its market possibilities it may be stated that in 1906 the Great Western of Brazil Railway carried from Pernambuco alone to the interior 9,347 tons of dried cod imported from Newfoundland. A delicious sardine also abounds in the Fernando fish preserve and could be tinned in large quantities on the island for the inviting and steady market of South America.

These are merely two of the many inducements to the securing of a fisheries concession. A third feature is the assured labor at a nominal price, the fixed wage of a convict being about 10 cents a day. Fernando also presents an excellent stopping place for ships on the Europe-South America run, which pass within signal distance to the number of about four per day. The island is also not far off the New York-South America course. As a coaling and provisioning station it would immediately attain preeminence in the South Atlantic, taking the place in the southern ocean of St. Vincent, Funchal, Barbados, St. Lucia, and of St. Thomas in the northern.

As to these opportunities it should be remembered that there are the usual obstacles to government concessions in Brazil. Privileges can no longer be had for the asking and in every current case there is competitive rivalry in every step toward a franchise. Should Fernando become a coaling station its large deposits of phosphate of lime, now rendered worthless on account of high freights, would immediately become available and of great value.

The island is now a part of the State of Pernambuco, but there is a bill before the State Congress which contemplates returning it to the Federal Government. Sea concessions in any case would have to be obtained from the latter and it is probable that the island will never become an industrial or commercial success unless through the cooperation of the National Government.

CHINA.

ADVANCED SYSTEM OF HANDLING CRIMINALS AND TRANSGRESSORS.

Vice-Consul Ernest Vollmer, writing from Tsingtau, says that one of the unfailing signs of the influence which contact with Western civilization and methods has upon the Chinese is evident in the gradual alteration of the systems of punishment of crime in vogue throughout the Empire. The vice-consul gives the following illustrations of this tendency:

The ordinary punishment for minor crimes for ages past has been beating, or "bambooing" as it is locally called. In the Ching Chou-fu district of Shantung this has been entirely done away with during the past few years, and a compulsory penal servitude substituted. This sentence is now used for petty larceny, vagrancy, disturbing the peace, and all similar transgressions; while professional beggars, cripples and fakirs of all classes are also put to work in these public institutions.

Reporting on the station under his care the police magistrate of Loanhsien, in the district named, states that the long-deserted and neglected governmental buildings in his city have been restored during the past year, by penal labor, and are now used as an industrial institute, where minor criminals are kept busy at useful and remunerative work. Aside from the reconstruction of 3 large work halls, a wash and bath house has been completed, and a modern sick ward erected. The interior is so arranged that the inmates are divided according to age and the misdemeanor for which they are interned, while the guards and supervisors watch them through a wicker partition.

Close at hand is a new administration building where the officials live and the offices are located; a general mess hall and kitchen; and a schoolhouse, where young men from the district are taught useful crafts and trades free, if they desire this education. This school was organized in compliance with a demand from the inhabitants of the district. A large farm, connected with the old Government establishment, is tilled by the inmates of the place, and returns a considerable revenue, aside from supplying much of the food needed.

The cost of maintaining this quasi prison is nearly met by the institution itself, a deficit of but $450 last year being the whole amount that stood between it and self-support, even after all salaries of officials and teachers had been paid. A similar "school of correction" is located at Itukhsien, and from the success of these pioneer attempts at social betterment of Shantung it may fairly be assumed that before long every young man of the province who goes wrong will have an opportunity of learning, free, a trade which will enable him to materially better his position in society.

MORTUARY OBSERVANCES.

AUSTRIA.

CREMATION NOT PERMITTED—DISPOSITION OF BODIES.

Consul-General W. A. Rublee, of Vienna, transmits the following concerning cremation in Austria:

Up to the present time the cremation of the bodies of the dead is not permitted in Austria, and such cremation, when desired, is effected in the nearest crematory of a foreign country. There is a large and active society, with its headquarters in Vienna, having for its purpose the agitation of the subject of cremation, with a view to obtaining the consent of the Government for the construction of crematories in Austria.

An American citizen traveling in Austria who wishes to provide for cremation in the contingency of death should take the precaution to execute a testamentary disposition to that effect and to have it with him. This will be quite sufficient, and the remains will then be sent to the nearest crematory in an adjacent country. The transportation of the remains is done by all undertaking establishments, and the cremation society in Vienna, "Die Flamme," also performs this service. If the transportation is placed in the hands of "Die Flamme" at Vienna, the society guarantees that only the actual cost of such transportation will be charged, whereas in provincial cities this is often not the case and the charges are sometimes very high. The difference in the transportation of dead bodies and of ashes is considerable, as a whole car must be secured for a body, and the ashes of a cremated body may be sent by parcels post in a tin box. Inasmuch as there is no cremation in Austria this question does not arise, unless the ashes are sent back to Austria after cremation of the body.

ENGLAND.

REGULATIONS GOVERNING THE CREMATION AND BURIAL OF FOREIGNERS.

In replying to a Boston inquiry upon the subject of cremation in London, and the disposition of the body of a person dying in that city who had been domiciled in the United States, Consul-General Robert J. Wynne supplies the following information:

If a citizen of the United States be traveling abroad, unaccompanied, it would be well for him to carry in his satchel or pocketbook written instructions as to what he desires should be done in the event of anything happening to him. The envelope containing such instructions should be headed: "Instructions in the event of my death." Inclosed he should give his home address, or the address of a friend, in the United States, so that communication could be made, or the address of any friend or business connection on this side could be mentioned with the same object, and for the purpose of obtaining necessary funds. I have been informed, on credible authority, that a person has no legal right to control the disposition of his remains, although I have no doubt relatives or friends would respect the wishes of the deceased.

In the event of the death in this country of a person domiciled in the United States, at any of the hotels, an undertaker is at once called in and the remains removed therefrom, provided always the deceased has had proper medical attendance, and that the doctor attending gives a certificate of death. If the death is sudden, the coroner of the district is at once notified and an inquest is held, the body in the meantime being removed to a public mortuary pending result of the inquest. If the verdict of death from natural causes be rendered the coroner signs an order and gives it to the representative of the deceased, who instructs the undertaker what to do. The transportation of the remains is in the hands of the friends or the representative of the deceased, and is not controlled by any local or government authority.

Should it be desired to exhume a body for reinterment in the United States, such removal is governed by regulations, for example: If the remains have been interred in consecrated ground (consecrated ground in accordance with the rites of the Church of England) permission has to be obtained from the ecclesiastical authority of the district in which the interment took place. If the interment took place in "unconsecrated ground," the permission of the Home Secretary has to be obtained, and such permission must be secured through the medium of the American embassy.

The facilities for cremation in London are ample. [Several inclosures transmitted by the consul-general covering the laws, regulations, and facilities governing cremation in London are on file in the Bureau of Manufactures.]

BRITISH INDIA.

CREMATION OF FOREIGNERS WHO DIE IN CALCUTTA.

Consul-General William H. Michael, of Calcutta, states that the remains of a foreigner dying in India may be exhumed and cremated and sent home, while the Government, except in rare instances, would refuse to allow the body to be exhumed and shipped home without cremation. [The "Directions with regard to Cremations at the Calcutta Municipal Crematorium" issued by the Cremation Society of Bengal has been forwarded by the consul-general and may be inspected at the Bureau of Manufactures.]

SPAIN.

NO REGULATIONS REGARDING THE CREMATION OF BODIES.

Vice-Consul Maddin Summers, of Madrid, states that in Spain there are no regulations regarding the cremation of bodies, either providing for or prohibiting it, but as there are no arrangements for this manner of the disposition of bodies it would be difficult to have it done. Foreigners who die in Spain are either buried in a foreign cemetery or are taken back to their homes. For shipment the remains must be embalmed and sealed in a double coffin.

BELGIUM.

BODIES FOR CREMATION MUST BE SENT TO FRANCE OR ENGLAND.

Vice-Consul-General Gregory Phelan, writing from Brussels, says:

There are no crematory ovens in Belgium, the nearest being at Paris and at Woking, near London. In order to be cremated any American citizen in Belgium should have on his person all necessary papers, such as passport, certificate of birth or registration, and a letter expressing his desire to be cremated, and sufficient money to enable the local authorities to pay for the transportation of the body to the nearest crematorium, and for other expenses. The cost of transportation to Paris is $33.16 and the cost of cremation $75.24, making the total expense, exclusive of coffin and hearse, etc., $108.40.

All bodies to be transported to the United States must be embalmed, and the cost of such transportation is $101.32, while the transportation of ashes is $25.

HUNGARIAN EMIGRANTS.

NEW EMIGRATION AND INSPECTION BUILDING AT FIUME.

Consular Agent G. Andrews Moriarty, jr., furnishes the following particulars concerning the building at Fiume nearing completion, designed to accommodate Hungarian emigrants while undergoing inspection preparatory to their sailing for their destinations:

The building, which is to be completed on March 15, 1908, at a cost of $305,000, is of the most modern style, of steel frame and concrete, lighted throughout by electricity, and heated by steam. The ventilation is accomplished by electric apparatus, and the window spaces are very large. The building stands on the west side of the town, on the Vie Volosca, and the railroad passes on one side, so that the emigrants can enter it at once.

The building has 4 stories, the first 2 containing inspection rooms, sleeping rooms, hospital and eating rooms, while the 2 upper are composed exclusively of sleeping apartments. It will accommodate, in all, 2,000 emigrants.

At the eastern side of the building is a large hall not yet completed, through which the emigrants enter. This leads into another hall, where the emigrants are inspected by the doctors. From this, on each side, are 2 dressing rooms, 1 for men and 1 for women, whence the emigrants go to the bathing rooms. There are in the men's bathing rooms 14 shower baths, while the women's room is supplied with tubs of hot and cold water. Their clothes are taken, meanwhile, to be disinfected, and there are 2 large disinfecting machines, and a large room or hall for storing disinfected baggage. There are also rooms with tubs for washing, drying, and ironing the emigrants' clothes. In the basement are 2 large sleeping rooms for men and women, the former containing beds for 140 and the latter for 80 persons. There are also 2 rooms for rejected emigrants, 1 for men, containing beds for 70 persons, the other for women, containing beds for 60 persons, with wash rooms attached.

MAIN BUILDING EQUIPMENT.

The first floor contains a great entrance hall with offices and an office for the Adria Navigation Company. In the east wing are 2 large sleeping halls for persons the first night before they have been thoroughly inspected by the doctors. The room for men contains beds for 240 persons and has a wash room with 16 wash basins fitted with cold water. The women's room contains beds for 160 persons with a wash room also attached. On this floor is a hospital ward, consisting of 2 rooms, with a fully equipped bathroom attached, and a room for infectious cases with 8 beds. All these rooms are lighted by large windows. The west wing contains official rooms and official dining rooms. There is a large dining hall 98 by 56 feet, in which are installed, behind a serving counter, 10 steam stoves and 1 large gas stove for roast meats. The dining hall accommodates about 2,000 persons. Beyond this toward the center of the building there is another hall containing fruit sellers, wine and liquor rooms, and a post-office.

The 2 upper stories consist exclusively of sleeping apartments, and are exactly alike, so that a description of one floor answers for the other. Each floor contains 24 sleeping rooms for families, 18 for 8 persons each and 6 for 12 persons each. In addition there are 19 sleeping rooms on the first and second floors, exclusive of the family rooms. There is between every 2 sleeping rooms a large living room, and to every sleeping room there is attached a washing room. Each story is 20 feet high. All the rooms are ventilated by electricity, have electric lights, and are heated by steam. The wash rooms are fitted with running water and set basins. The roof is made into a terrace, with stone seats, as a place of recreation. Each floor is equipped with a fire hydrant.

The building is extremely modern and is equipped with every modern comfort, being airy, well lighted and up to date in all respects. All the building material came from France, which should be a reminder to American contractors to keep a lookout for such undertakings.

AMERICANS LIVING ABROAD.

REASONS FOR REQUIRING REGISTRATION WITH CONSULS.

The American Society in London has published in the Times of that city the following letter of reply from the Hon. Elihu Root, Secretary of State, in regard to the requirement of American consuls that they shall make returns to the Department of the registrations of American citizens residing in their respective districts:

In reply, you are informed that paragraph 172 of the Consular Regulations relative to registration is of long standing, being in the Consular Regulations of 1880, and the Executive Order of April 8, 1907, merely reaffirms the regulation with an amendment requiring consuls to make returns of registrations to the Department.

The regulation requires principal consular officers to keep a register of American citizens residing in their several districts, to make known that such a register is kept, and to invite all resident Americans to cause their names to be entered therein. Its object is to obtain a record of American citizens abroad, in order that the Government may be better prepared to protect them by knowing who are entitled to protection, and to afford them an opportunity to make their American citizenship a matter of official record. The regulation provides that the same general principles govern applications for registry as govern applications for passports, and the Department desires native, as well as naturalized, citizens to register, as the information thus obtained may be as necessary in their case as in the case of naturalized citizens.

As you are aware, an American citizen residing abroad is held by this Government to be entitled to its recognition as long as he maintains in good faith his American citizenship; and the Department does not deem it a hardship nor an infringement upon his rights to urge one who resides abroad and is for that reason free from performing those duties of citizenship which are exacted of a citizen who resides within the jurisdiction of his Government to inscribe his name on a register and to state the facts concerning his foreign residence to a representative of his Government.

It is frequently of great importance for the State Department to know without any delay how many American citizens there are in a foreign country where they reside, in order to determine its attitude in regard to movements and measures which may affect their interests. This can only be done by means of such a registry as is called for by the regulation.

COMBINED STOPPER AND POURER.

SIMPLE BUT INGENIOUS MECHANISM INVENTED BY A SOUTH AMERICAN.

Consul-General Alban G. Snyder, of Buenos Aires, states that it is reported that a large oil dealer in that Argentine city has invented a stopper and pourer for vessels containing marketable liquids which at the same time offers no projections to prevent its packing and storage. It is thus described:

The invention is very simple, consisting of a conveniently shaped discharge spout, which, when not in use, lies in an inverted position inside the vessel, and the butt end of which, closed by a small plate and secured by a ringed cap screwed over all, forms the stopper proper.

Other advantages claimed for this stopper are that it lies in a small hollow in the outer surface of the vessel which it closes and thus lies flush with such surface; that the ringed cap is raised slightly above the level of the closing plate secured by it, so as to form a depressed round space intended to receive the seal of the manufacturer or packer of the liquid. The unscrewing of the cap and opening of the vessel can not be accomplished without breaking this seal, a guaranty of the quality and quantity of the contents of the vessel being afforded thereby.

It is claimed that it can be turned out in tin or a special composition to be used with wines or other similar liquors at half the price of any other stopper now on the market.

PERUVIAN VICUNA DISAPPEARING.

THE HERDS OF THIS VALUABLE MOUNTAIN ANIMAL ARE DIMINISHING.

Consul-General Samuel M. Taylor, in a report from Callao, says that the graceful vicuna, one of the most useful members of the Peruvian fauna, is in danger of disappearing from the elevated plains of the Andes, and this seems to be so much realized that steps are to be taken to prevent their total extinction. Mr. Taylor adds:

Formerly it was nothing unusual for travelers in the Sierra to see great herds of the vicuna moving about on the high plateaus, but now; in consequence of their being so persistently hunted, most of them have emigrated to higher altitudes, which are regions more arid and more rigorous in climate. Here many perish, not from the effects of the snow and hail storms prevailing there and which they are very well able to stand, but from sheer starvation, vegetation being extremely scarce at these great heights.

In the summer season the vicunas resort to the valleys in quest of food, which they are always able to find in abundance on springy ground and on the banks of the small streams and lakes. But these, unfortunately, are the places where they are usually hunted, with result that they are continually taking fright and escaping to the higher regions, where, fearing to return, they perish of inanition, wandering around the dreary peaks of the great mountains.

According to figures issued, the exports of vicuna wool and hides from Peru during the last five years are as follows:

Year.	Wool.		Hides.	
	Pounds.	*Value.*	*Pounds.*	*Value.*
1902	4,078	$1,773	2,604	$660
1903	7,864	3,421	3,832	1,866
1904	8,618	3,739	4,066	2,193
1905	3,984	4,502	1,334	1,078
1906	11,102	12,092	3,334	1,297
Total	35,646	25,527	15,260	7,094

During the past two years the wool, which is a fine article of a reddish brown color, has been much in demand in England at from $1 to $1.25 per pound, but the supply is rapidly diminishing. The hides with the wool on are also in demand for rugs and are valued at from $15 to $50 for each rug, according to the care in selection.

BRITISH AUTOMOBILE ACCIDENTS.

NUMBER OF PERSONS KILLED AND INJURED LAST YEAR BY MOTOR CARS.

Consul Frank W. Mahin writes from Nottingham that the secretary of the Highways Protection League states that, according to accounts in the press, 932 automobile accidents occurred in Great Britain in 1907, killing 215 and injuring 675 people. For these accidents and other motor-car offenses 2,270 people were summoned, of whom 2,046 were convicted. As the number of automobiles in use is estimated at 45,000, it would seem that one in about every 22 did something illegal last year. Occasionally the same driver is summoned more than once, but his license is usually revoked if it happens more than twice.

EXTERMINATION OF MOSQUITOES.

CACTUS PASTE AS A SUBSTITUTE FOR PETROLEUM IN WARM CLIMATES.

Consul William Henry Bishop, of Palermo, Italy, transmits the following information relative to experiments made by the chief of the sanitary service at Gaboon, French Africa, with the cactus as a substitute for petroleum for the extermination of mosquitoes in warm climates:

The thick, pulpy leaves of the cactus, cut up in pieces, are thrown into water and macerated until a sticky paste is formed. This paste is spread upon the surface of stagnant water, and forms an isolating layer which prevents the larvæ of the mosquitoes from coming to the top to breathe and destroys them through asphyxiation.

It is true that petroleum can do the same service, but in warm climates petroleum evaporates too quickly and is thus of little avail. The mucilaginous cactus paste, on the contrary, can hold its place indefinitely, lasting weeks, months, or even an entire year; and the period of development of the larvæ being but about a fortnight, it has the most thorough effect.

FOOD-COOKING ECONOMY.

NONPATENTED DUTCH DEVICE FOR SAVING FUEL.

Consul Henry Morgan, of Amsterdam, sends the following report of a device for cooking foodstuffs without fuel:

A simple device for cooking foodstuffs without fuel has been in general use in Holland for the past two years among the working classes of people and may be of general interest to the people of the United States. The device consists of a wooden box, padded with hay to a thickness of about 2½ inches on the sides, bottom, and cover. The box can be made of any dimension required. The food after being partially cooked is placed on hot plates in an enameled utensil made of a size to fit snugly against the upholstering of the box. The lid of the box is then closed and the heat generated therein by the partially cooked food not only continues the process of cooking the food thoroughly, but keeps it warm for a number of hours. It is said to give great satisfaction. The device is not protected in any way by patents and can be made by anyone.

PHONOGRAMS IN SWITZERLAND.

POSTAL DELIVERY OF WIRE MESSAGES AND RATES CHARGED.

Consul Francis B. Keene, of Geneva, furnishes the following brief statement concerning the Swiss use of the telephone and telegraph:

The telephonic service in Switzerland is divided into eleven sections, one of them including this entire consular district of Geneva. In any one of the eleven sections everybody has the right to have transmitted, by writing and by postman, messages intrusted by telephone to the central office of the telephone, or given in writing to any telegraph office.

"Phonograms" must be sent by the administration to any consignee, a subscriber to the telephone in the same section; or to any consignee if domiciled within the same section.

"Phonograms" are subjected to a fixed tax of 20 centimes, plus 1 centime for each word (3.8 cents plus 0.19 cent), whereas telegrams pay a fixed tax of 30 centimes, plus 2½ centimes for each word (5.7 cents plus 0.48 cent) in the whole country.

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CONSULAR FEES.

RATES PRESCRIBED BY THE PRESIDENT.

Following is the tariff of fees prescribed by the President, under the act for the reorganization of the consular service, to be charged by consular officers of the United States. All consular charges must be in strict accordance with and be collected in gold or its equivalent, and no fee or compensation will be collected for any service not covered by this tariff. American vessels and seamen are exempted by law from the payment of consular fees. Foreign-built vessels, unregistered, owned by American citizens, are not exempt from the payment of the prescribed fees.

Nature of service.	Fee.
Miscellaneous services.	
1. Certificate to invoice, including declaration, in triplicate or quadruplicate, covering either importations or transit shipments, including any additional declaration or certificate not otherwise provided for which is required by law or regulations for use in connection with the entry of the wares or the forwarding of the same in bond	$2.50
2. Invoice of returned American goods	1.00
3. Extra certificates or declarations as above described, including immigrant's oath (Form No. 128), when issued without an invoice certificate, each	1.00
4. Certificate to extra copies of invoices, each	1.00
5. Certificate of disinfection, in triplicate or quadruplicate	2.50
6. Landing certificate, including oaths of master and mate, and the complete execution of the certificate	2.50
7. Sealing cars coming from Canada or Mexico, for each manifest in quadruplicate with the consul's certificate, including sealing of each car, vessel, bale, barrel, box, or package	1.00
8. Issuing a passport—Form No. 9	1.00
9. Visaing a passport—Form No. 10	1.00
10. Visaing a Chinese passport or certificate	1.00
11. Marriage certificate, in duplicate, Form No. 87	1.00
12. For taking into possession the personal estate of any citizen who shall die within the limits of a consulate, inventorying, selling, and finally settling and preparing or transmitting, according to law, the balance due thereon, $2 for each $100 of value or fraction thereof. If part of such estate shall be delivered over before final settlement, $1 for each $100 of value or fraction thereof to be charged on the part so delivered over as is not in money, and $2 for each $100 of value or fraction thereof on the gross amount of the residue. If among the effects of the deceased are found certificates of foreign stock, loans, or other property, $1 for each $100 of value or fraction thereof on the amount thereof. No charge will be made for placing the official seal upon the personal property or effects of such deceased citizen, or for breaking or removing the seals.	
13. For each certificate of protection, semsar, or certificate of employment issued at Tangier	2.00
Services to vessels and seamen.	
14. Bill of health, in duplicate[a]	5.00
15. Supplemental bill of health, in duplicate[a]	2.50
16. For receiving and delivering ship's register and papers, including consular certificates, as prescribed in Form Nos. 13 and 14, $1 for each 100 tons or fraction thereof, registered measurement (net), of the vessel for which the service is performed, if under 1,000 tons; but for American vessels running regularly by weekly or monthly trips, or otherwise, to or between foreign ports, this tonnage fee will not be charged for more than four trips in a year; and tonnage fees shall not be exacted for any vessel touching at or near ports in Canada on her regular voyage from one port to another within the United States, unless some official service required by law shall be performed.	

[a] Foreign war vessels are exempt from the payment of fees for bills of health.

Nature of service.	Fee.
Services to vessels and seamen—Continued.	
17. And for every additional 100 tons net or fraction thereof	$0.50
18. Shipping or discharging seamen, including the certificates thereof attached to crew list and shipping articles and given to seamen	2.00
19. Authentication of copies of protests or other necessary documents for vessels or seamen not otherwise provided for	2.00
20. Preparation and acknowledgment for vessels or seamen of any oath or declaration for which a form is given in the Consular Regulations, or a similar necessary service not otherwise provided for	2.00
21. Preparation and execution for vessels or seamen of any certificate for which a form is given in the Consular Regulations, or similar necessary service not otherwise provided for	2.00
22. Orders or letters for vessels or seamen for which forms are given in the Consular Regulations, or other similar necessary service not otherwise provided for	2.00
23. Recording, when necessary, for vessels or seamen any document covered by the provisions of the Consular Regulations, for every hundred words or fraction thereof	.50
24. Noting marine protest—Form No. 37	2.00
25. Extending marine protest—Form No. 38	3.00
If it exceed two hundred words, for every additional one hundred words	.50
26. Protest of master against charterers or freighters—Form No. 39	2.00
27. Clearance when issued by the consul, as at free ports	2.00
28. Attending an appraisement of vessel's goods or effects for each day's attendance	5.00
29. Attending sale of vessel's goods, for each day's attendance during which the sale continues	5.00
30. Attendance at a shipwreck, or for the purpose of assisting a ship in distress, or of saving wrecked goods or property, over and above traveling expenses, whenever the consul's interposition is required by the parties interested, for each day	5.00
Notarial and other services.	
31. Administering an oath and certificate thereof[a]	2.00
32. Administering oath and preparing passport application	1.00
33. Acknowledgment of a deed or power of attorney, or similar service, including one or more signatures, with certificate thereof	2.00
34. Administering any and all oaths required to be made by pensioners and their witnesses in the execution of their pension vouchers, or certifying to the competency of a local official before whom the same were executed	No fee.
35. Acknowledgments connected with the transfer of United States bonds	No fee.
36. Administering oaths to or taking acknowledgments of officials or employees of the United States Government in connection with their official business or accounts	No fee.
37. For rendering notarial services to officials of foreign governments who render gratuitously reciprocal courtesies to American diplomatic and consular officers	No fee.
38. Certifying to official character of a foreign notary or other official	2.00
39. For taking depositions, executing commissions or letters rogatory, where the record of testimony, including caption and certificate, does not exceed 500 words	10.00
For each additional 100 words or fraction thereof	.50
The foregoing fee shall cover the administration of the oath and all services of the consul as commissioner, but shall not include services of clerk, stenographer, or typewriter, which shall be additional at the rate prescribed herein for copying.	
40. Copies:	
For the first hundred words or fraction	.50
For every additional hundred words or less	.25
41. Translations; for every one hundred words or fraction	.50
42. Additional fee for all services contemplated by fees numbered 31, 32, 33, 38, 39, when rendered elsewhere than at the consular office at the request of the interested parties, for each hour or fraction thereof	1.00
In connection with any service rendered outside of the consular office at the request of private individuals, the exact amount of the expenses actually and necessarily incurred by the person rendering the service shall be collected from the persons for whom the service is performed in addition to the fee or fees prescribed therefor, and a note of the amount shall be made on the margin of the fee book and fee return opposite the entry of the service and fee; but no amount in excess of the fee or fees prescribed and such actual and necessary expenses shall be charged or accepted.	

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[a] Executive order of December 21, 1906, prescribes that no fee shall be charged for the affidavit of temporary stay of owner of sealskin garment entering the United States from Canada.

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